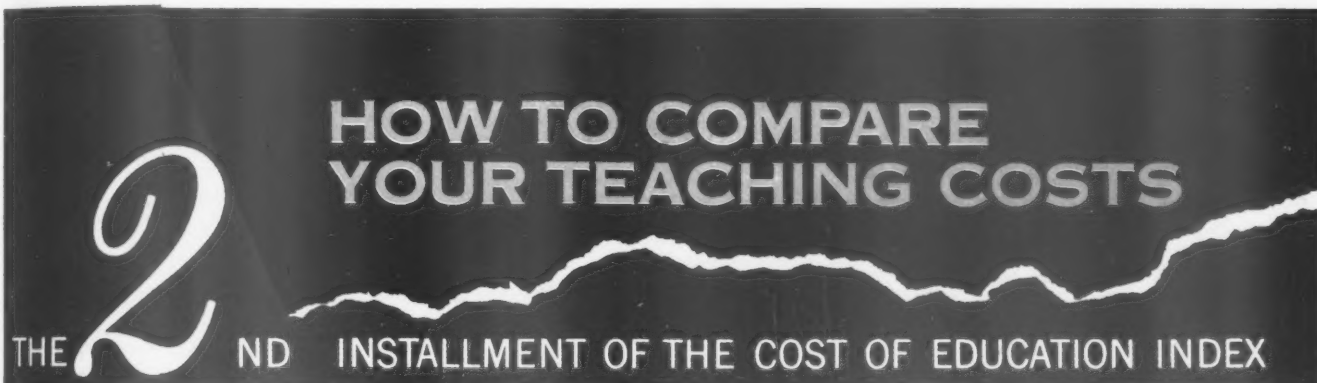


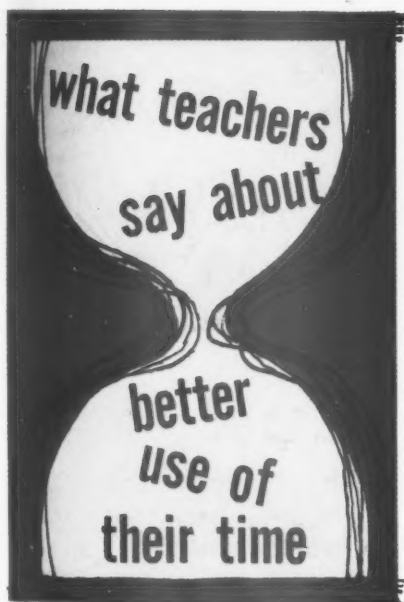
SCHOOL MANAGEMENT

PRACTICAL SOLUTIONS TO SCHOOL MANAGEMENT PROBLEMS



2 HOW TO COMPARE
YOUR TEACHING COSTS

THE 2ND INSTALLMENT OF THE COST OF EDUCATION INDEX



what teachers
say about

better
use of
their time



How to
modernize
your old
buildings



what are you doing about

**EDUCATIONAL
TV?**

SEE COMPLETE CONTENTS ON PAGE 3

Price?_____ Length?_____

Height?_____ Benches?_____

Color?_____ On Wall?_____

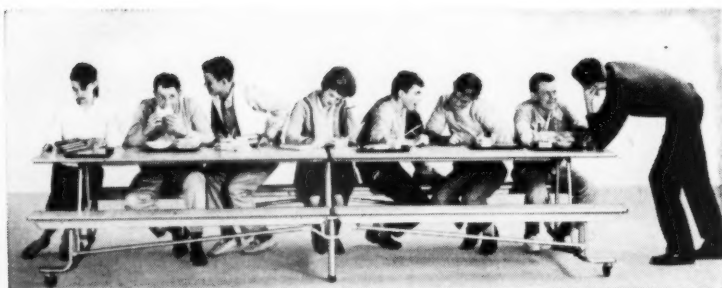
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"the best seat in the house"



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Contents for May 1960

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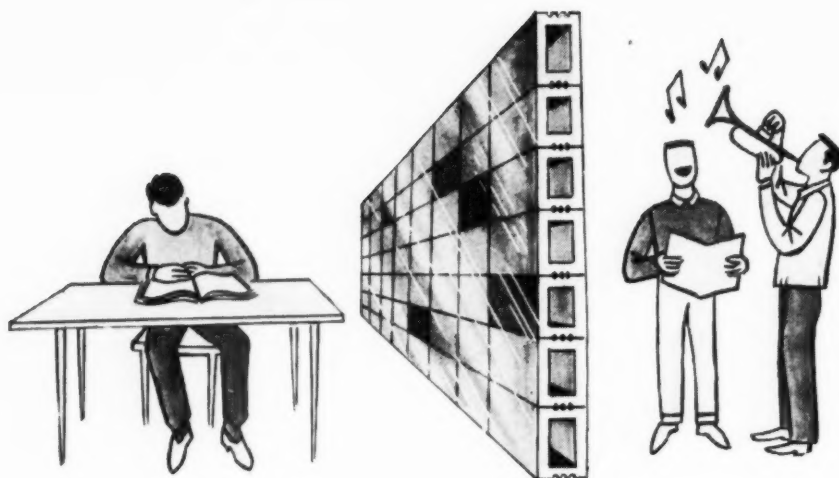
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Isolated . . . by structural facing tile. In extreme cases (band rooms, gymnasiums) acoustical tile provides maximum sound absorption.

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SCHOOL MANAGEMENT

22 West Putnam Ave., Greenwich, Conn.

Volume 4

Number 5

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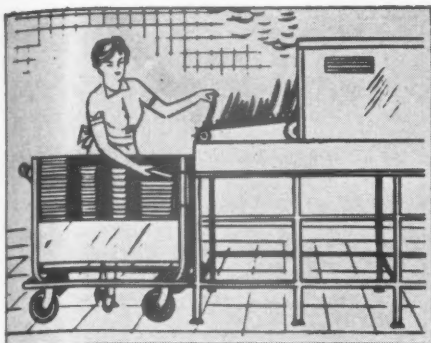
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As portable dish or tray shelving under 34" counters. Saves re-handling, reduces chipping and breakage.



As tray dispenser at head of cafeteria lines. One-side workability eliminates need for custom fixtures.

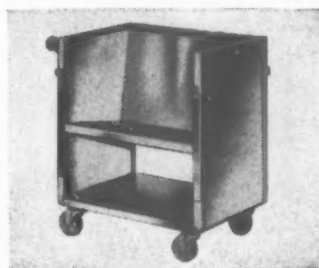
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Priced to fit any budget . . . from utility Model 405 to the deluxe Imperial 707 with hinged front and top cover for enclosed sanitary protection. All three models are sturdily constructed of finest satiny-finish stainless steel. Reinforced at every point of stress to withstand rugged use . . . provide years of dependable performance.

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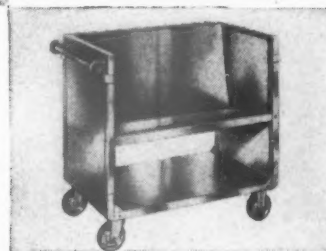
Big capacity . . . yet compact for maximum convenience and utility. Flexible use — stores and distributes dishes or trays . . . transports heavy, bulky items like milk cases, crates of produce or canned goods. Models 405 and 407 feature extra capacity on lower shelf.

No space-wasting compartments or dividers. One-side workability eliminates reaching, stretching, bending . . . unnecessary turning of cart. Any of these Lakeside trucks can make dish handling easier, speedier — almost effortless!



Model 405
\$93.75

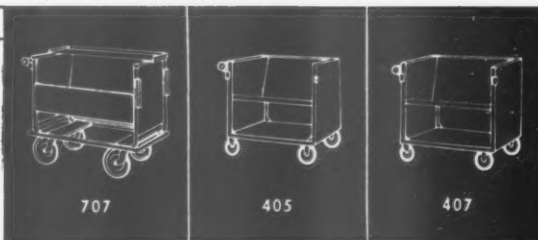
Model 407
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Model
Imperial 707
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Specifications	707	405	407
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Over-all Size	24 x 39¼ x 32½"	19¼ x 30½ x 32"	23 x 38¼ x 32"
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Clearance Between Shelves	None	7½"	6"
Diameter of Caster	8" All Swivel	4" All Swivel	5" All Swivel
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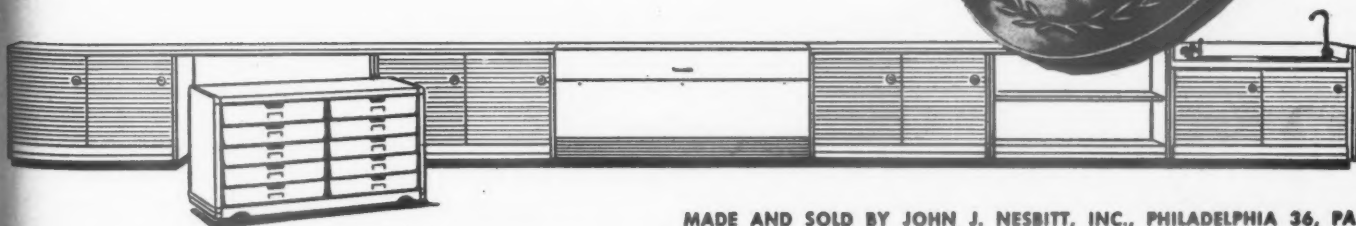


thermal comfort

One investment in the Nesbitt 600 Line gives you the thermal comfort and the flexible storage facilities needed for active learning in the classroom

*I*t is well known that a comfortable thermal environment—continuously controlled and adjusted to the class census and activity—is one required condition for learning. Another is the flexibility of space and facilities that permits creative teaching, pupil participation—*active learning*. Nesbitt, whose heating, ventilating and air-conditioning units and integrated storage cabinets are valued assets in thousands of classrooms, is now offering the completely new 600 Line in modern design and colors. This beautiful window-wall ensemble includes a Syncretizer (unit ventilator or year-round air conditioner), Wind-o-line radiation if required, and more versatile storage cabinets in various lengths and graded heights—featuring open or closed, fixed or mobile units with adjustable shelves, cubicle dividers or tote trays, and a cabinet sink-bubbler.

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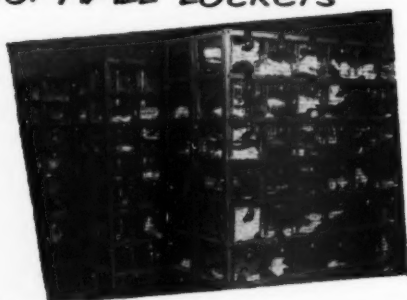
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Master COMBINATION PADLOCKS

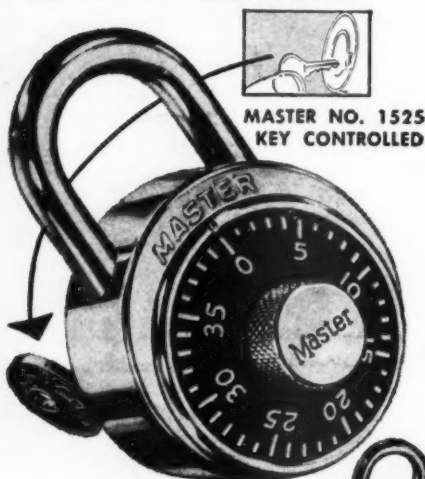
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- Padlocks are not built-in — slamming or jarring of locker doors cannot upset their locking mechanism!
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Master Padlocks

NO. 1 IN AMERICA'S SCHOOLS

Master Lock Company, Milwaukee 45, Wis.
World's Largest Padlock Manufacturers
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SM

LETTERS

Emergency substitutes

SIR: I know that you attempt to be factual in the news presented in your publication. I was somewhat surprised to read the item on page 49 of your March issue, ("Student monitoring of classes attacked in Detroit"). Here is a report to our board of education which you may wish to compare with your report:

Because of the many figures which have been stated concerning the substitute situation, the following facts were presented to the members of the board of education and to the staff to clarify the substitute situation and procedures.

More substitutes are available this year than were available a year ago. As of January 29, 1960, there were 1,215 day-to-day substitutes (including 90 persons assigned to full-time substitute work as resource teachers) compared to 1,105 day-to-day substitutes as of January 29, 1959.

The number of substitute calls filled was approximately the same as a year ago.

The number of substitutes from last year's list, not used this year because of their record, is 169. However, this does not mean that this number could be available presently because some have moved from the city and others have retired, secured other employment, have ill health, or are not interested in substitute work.

Substitute calls were much greater than last year. In 1959 there were an average of 263 calls per day. This figure reached 473 in 1960.

The preceding facts indicated that:

The substitute shortage was not due to fewer substitutes available than last year, or to the substitutes on the list not filling as many calls as a year ago.

The number of calls significantly exceeded the number of persons who had been eliminated from last year's supply because of their records.

A plan was needed which would provide each class with a qualified teacher every day, without make-shift arrangements of combining classes or having regular teachers take extra classes above their regular full-time load.

An emergency procedure was put into effect which was designed to insure that each class was taught by a qualified teacher. For that emergency, and in case a similar emergency should occur

at some later time, certain classifications of non-teaching certified personnel were used to fill illness absences. *The number of unfilled calls under the emergency procedures has been practically eliminated. There are a few cases in specialized fields where qualified staff persons were not available either on the substitute or regular staff.*

SAMUEL MILLER BROWNELL
SUPERINTENDENT OF PUBLIC SCHOOLS
DETROIT, MICH.

Selecting a superintendent

SIR: The method of selecting a superintendent employed by the Wheeling, Ill., board ("How to find and select a superintendent," SM, March, '60 evidently worked very well and at considerable saving in board members' time as compared with the procedure we used three years ago. However, our selection operation went quite smoothly and involved no extra cost for outside consultants.

Like the Wheeling board, the members of both the elementary district and the high school district boards of education (served by a single administration) were all laymen, but we knew fairly well what we wanted in a superintendent. Therefore, we sent an outline of the desired qualifications and a description of our community and its schools to the deans of education of 10 universities, requesting credentials of likely candidates meeting our basic requirements. This resulted in our receiving some 64 sets of credentials which were then screened and individually rated by all board members and by an advisory committee of principals.

After all members of both boards had screened all candidates a process of elimination was undertaken in several joint meetings. This reduced the field to 10, each of whom we invited in for interviews. The same questions were asked of each one. After interviewing all 10, a final selection was made, contingent upon a report made by two board members who visited this candidate's community, viewed the physical accomplishments of his administration, talked to community leaders and parents, evaluated his apparent relationship with his staff and teachers and visited his home and family.

True, scores of hours were required from the time of each of 14 board

continued on page 15

NOW...

THE
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Brunswick



OL MANCE

zed!

THESE TWO QUESTIONS WERE ASKED

1 Which furniture made the best contribution to your educational program?

52% rated Brunswick first

30% rated Brand A first

18% rated other brands first

2 Which furniture do you consider the best investment value?

52% rated Brunswick first

27% rated Brand A first

21% rated other brands first

Survey conducted by Gould, Gleiss & Benn, Inc., Independent National Market Research Organization, December, 1959.

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*you'll discover a whole new world of
better learning...and lasting value in the new*

CONTEMPORARY SERIES

by **Brunswick**



The right size chair... the right height desk (it stacks)... the right learning atmosphere. A dominant blue background with neutral gray brick wall and draperies are used to offset a warm exposure. Blue is used in the cabinets to relate to the background. Yellow doors, for stimulation are repeated in the chairs to bring the color into the room.

This triple duty fifth grade room was created in minutes. Cabinets help separate teacher-reading group (forward) from study and project groupings at rear along windows. Bookbox Desks have Float-action lids, a torsion-bar lid control for finger-tip raising... no-slam closing.



Its incomparable *flow-line* beauty speaks for itself!

Less apparent, yet even more important in these days of mounting costs and tightening budgets, is the unmatched educational and service value built into every piece of this outstanding line of furniture.

Typical of the new Contemporary Series is the quality and serviceability of its body-molded, Lifetime Fiberglass one-piece seating unit. Not only is it impervious to heat and cold . . . not only will it resist marring, scratches, dents, but its unique one-piece design makes

it virtually indestructible in use. Its exclusive Color for Learning is through-and-through . . . wipes new with a damp cloth. Other maintenance-conscious design advantages include: weld-like attachability of chair desk and tablet-arm assembly, permanently bonderized metallic in-depth finish on metal parts, wrap-around table leg braces, Ophtho-Light, parchment patterned melamine plastic writing and work surfaces.

See for yourself why the new Brunswick Contemporary Series is your best investment . . . in terms of original cost, upkeep and lifelong service!



The little red schoolhouse never looked like this...but it could! A cheerful, cool, spacious kindergarten is furnished in balanced blending of red, yellow and blue with the dominant blue background color modified with yellow for cheerfulness. Cabinets separate room into four work-study-play areas, perfect for young, active minds and bodies.

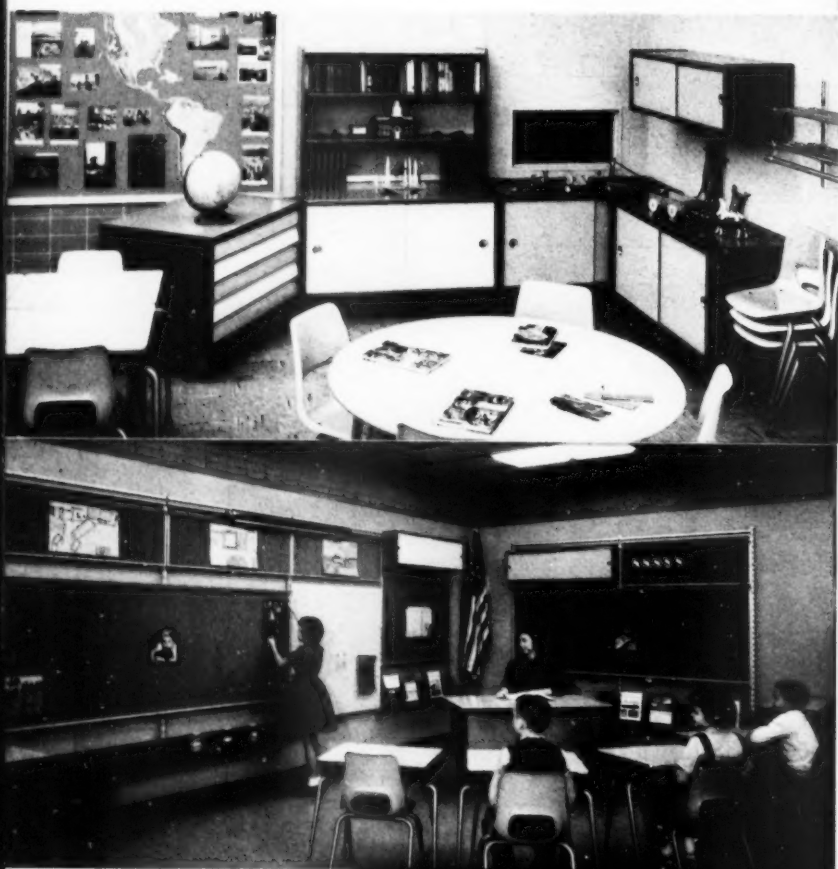
Comfort . . . real learning comfort . . . is found for the first time in the new Brunswick chair design. Orthopedically perfect compound curves (possible because of the unique workability of Brunswick produced Lifetime Fiberglass) are molded right into the single piece Lifetime Fiberglass seating unit. Chairs are available in 8 sizes...each seating unit individually proportioned to the chair size. Exclusive uni-structure frame gives perfect weight distribution. Cushiony resilience of entire unit down to rubber-on-steel glides assures longer periods of relaxed concentration. All Contemporary Series' tables incorporate the handsome new wrap-around leg support...added stability without getting in the way of knees, chair edges.



***Designers Note:** The new Brunswick Contemporary Series is "evolutionary" in concept. It will blend perfectly in design, size and color with your current Brunswick furniture!

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members, but I believe that we would change the procedure but little if we again found it necessary to engage a superintendent. I believe we had more confidence in the intrinsic value of our final selection than if we had relied on consultants.

A. H. BOWERS, MEMBER
HIGH SCHOOL BOARD OF ED.
DOWNERS GROVE, ILL.

CEI termed invaluable . . .

SIR: I was greatly interested in your recent national survey of school district costs (*Cost of Education Index*, SM, Apr. '60, page 101) and the review of it that appeared in the *New York Times*.

It should prove invaluable to districts throughout the nation.

EARL J. GOLDBERG
MT. PLEASANT EDUCATIONAL
IMPROVEMENT ASSOCIATION
WILMINGTON, DEL.

. . . and much-needed

SIR: Speaking as secretary of Ohio's newly-created Interim Commission on Education Beyond the High School, I feel that SCHOOL MANAGEMENT is to be congratulated for conducting its much-needed survey, the Cost of Education Index.

E. A. WHITEKER
ASSISTANT TO THE DIRECTOR
FOR EDUCATION
STATE OF OHIO
DEPARTMENT OF INDUSTRIAL AND
ECONOMIC DEVELOPMENT
COLUMBUS 15, OHIO

Objection

SIR: I have read your interesting Cost of Education Index but it seems your analysis for regions is misleading. For example, Region V, of which Virginia is a member, includes high income states such as Delaware and Maryland and South Carolina, one of the lowest income states in the country. It seems your analysis would have been more useful and meaningful if you had grouped in reference to similarity of income.

ROBERT F. WILLIAMS
EXECUTIVE SECRETARY
VIRGINIA EDUCATION ASSOC.
RICHMOND, VA.

■ Regional breakdowns are based on those used by the United States Census Bureau.

ED

ClarkeA-matic

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In addition, a better housekeeping job is accomplished and floors are safer, more sanitary. The floor is now cleaned *three times a week*. These three cleanings, requiring 45 minutes each, total only 2¼ hours — saving 13¾ hours each week.

Put briefly, Clarke-A-matic does three times the cleaning for less than one-seventh the former cost.

And one more thing: Clarke A-matic gets floors clean. Instead of just moving dirt around with a mop, it scrubs, picks up and dries — all in one pass — and leaves floors sparkling. And, the Clarke-A-matic is self-propelled — ideal for cleaning large floor areas in any institutional, commercial or industrial building.

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FLOOR MACHINE COMPANY



775 E. Clay Ave., Muskegon, Michigan

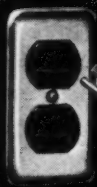
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DISTRIBUTED IN CANADA: G. H. WOOD & CO. LIMITED, BOX 34, TORONTO 18, ONTARIO

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Use electricity that's
already there



to power
reliable
motor-
operated
valves



and
dependable
ventilation
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operators



for learning



with Barber-Colman *ELECTRONIC* Temperature Controls

You can thank the architects and engineers for the tremendous strides in the design of modern school buildings and the equipment in them. These new schools provide better "atmospheres" for learning . . . and for health and comfort, too.

Barber-Colman's part in the picture is the manufacture of the finest in automatic controls for school heating and ventilating systems. These electrically operated controls sense and correct temperature variations instantly. They save on installation costs. They are trouble-free, last for years and years without maintenance, save time, trouble, and tax dollars. Nothing beats electricity for accuracy, dependability, and economy. You know this from experience with your telephone, refrigerator, electric clock, radio. You know it every time you flip a light switch or start a motor.

So if you're going to build a new school, remember that the effectiveness of your big investment in the heating and ventilating system is totally dependent upon the automatic controls that operate it. Barber-Colman controls insure economy, dependability, and the temperature uniformity that means better "atmospheres" for learning.

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This material—promotional and otherwise—contains ideas of possible value to you and your schools. Each item listed will be sent to you without cost.

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▼
Films for the deaf. Five Walt Disney films have been obtained by the U.S. Office of Education to begin the Captioned Film for the Deaf program, a part of the Educational Media Program. The films—"White Wilderness," "Living Desert," "Treasure Island," "Littlest Outlaw," and "Dumbo"—will be loaned free to qualified groups of deaf people. They are 16mm feature length films with printed captions superimposed on the picture. Caption writing was done by writers who are themselves deaf and who adapt the language of the sound track from printed scripts. Requests for bookings will be accepted by the Office of Education in Washington.

For free bookings of these films, circle number 846 on the Reader Service Card.

▼
Electric ceramic kilns. A 15-page booklet illustrating the latest in quick-firing kilns and kiln temperature controls has just been issued by Electric Hotpack Co., Inc. Units feature tongue-and-groove firebrick insulation, temperature ranges to 2350 degrees, and simplified and convenient controls including large face pyrometer and automatic overtemperature devices.

For a free copy of this booklet, circle number 856 on the Reader Service Card.

▼
All about glass. How glass is made and how it is widely used in science and industry is the subject of a new, illustrated booklet from Corning Glass Works. Written in non-technical language, the booklet covers the use of various types of glass in medical and space research, industrial and food chemistry and the electronics field. Included are sections on the development of the electric light bulb, photosensitive glass, piping and laboratory apparatus, the 200-inch telescope mirror made for the Hale Observatory and Pyroceram, the new glass-ceramic materials. One section outlines simple classroom experiments in which the

students can make their own glass, cut it, draw tubing, bend it, form beads and color the glass.

For a free copy of this booklet, circle number 844 on the Reader Service Card.

▼
Information on cancer. The new, 68-page edition of the American Cancer Society's "Youth Looks at Cancer," containing a new series of 20 illustrations and charts, is now available to high school students and their parents. This vivid presentation gives the reader the latest information on progress in cancer control. The booklet reviews the biology of cancer, cause of the disease, its detection and treatment and research progress. Additional chapters include sources of further information, a glossary of medical terms used in cancer and a brief discussion of careers in the medical field. A summary of research progress in cancer since World War II is included.

For a free copy of this booklet, circle number 847 on the Reader Service Card.

▼
Available scholarships. A revised survey on scholarship programs of motor carriers and allied companies is now available from the National Committee on Education of the American Trucking Assoc. The list includes source, number and amounts of grants and eligibility requirements. It is one of three booklets comprising a series on trucking industry careers. Others in the series include a list of colleges and universities known to offer courses in transportation and related subjects and a discussion of career opportunities in the trucking industry.

For a free copy of this scholarship list, circle number 845 on the Reader Service Card.

▼
Ornamental grillework. A ¾-inch thick styrene grillework that can be used both inside and outside school buildings to form see-through walls, floating screens, space dividers and wall decorations, is described in a 1960 catalog available from Holcomb &

Hoke Mfg. Co., Inc. Engineered for simple and economical installation, the material is available for framing in woods to match paneling or decor. Its standard white blends well with most color schemes but it may be factory painted in colors or metallics if desired.

For a free copy of this catalog, circle number 848 on the Reader Service Card.

▼
Plywood directory. A "where to buy" booklet that includes the name, address and phone number of every member of the Hardwood Plywood Institute together with information about each member's annual capacity in square feet, the size of plywood it manufactures and the maximum sizes produced, is offered by the Institute. Also listed are the types and names of glue bonds used, the kinds and quantity of machinery at hand and the species of wood used by each producer. The back pages of the booklet present information about the technical and promotional literature available through the Institute.

For a free copy of this directory, circle number 871 on the Reader Service Card.

▼
School building ideas. The most recent issue of Tone Magazine, published by Armstrong Cork Co., is devoted entirely to the coverage of schools. Dealing with the problem of how to build "space-age" schools without increasing taxes the magazine describes several different types of school buildings. There is a discussion of the compact unit design of the Montclair, Calif., High School and how it differs from the more conventional Californian "finger plan" layouts. Also discussed is the Y-shaped building of the Dielman School in St. Louis County, Mo. Service areas in the Dielman School are in the front of the building, where suppliers and visitors can reach them by driving just a few yards off busy Dielman Road. In addition, the cafeteria, multi-purpose room, library and craft room are all located in front. Classrooms, faculty room and storage

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"Répondez!"



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This new language recorder enables a teacher to record translation "questions" on one channel of the tape. The student listens, and records his "answers" on the second channel. When the lesson is completed, the teacher and student can listen to both channels simultaneously for critical comparison. Student can re-record as often as necessary to master the lesson. Tape can be re-used

indefinitely by any number of students. Accidental erasure of "question" channel is prevented by concealed switch. This recorder is the basic unit for any language lab. It serves equally well for speech, drama and music instruction. Compact, portable design, traditional quality. Mail coupon today for more complete information.



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areas are all located along the two arms of the Y, in the back of the school building.

For a free copy of this magazine, circle number 863 on the Reader Service Card.

▼
All about rolling grilles. Steel and aluminum rolling grilles, suitable for closing off school corridors and other large interior and exterior openings, are described and specified in a bulletin released by Cookson Co. They are recommended wherever practical rolling closures combining the qualities of strength,

security against entry, full visibility and free ventilation are required. Detailed drawings covering all types of standard and special situations are included in the bulletin.

For a free copy of this bulletin, circle number 831 on the Reader Service Card.

▼
Nuclear training system. A complete radioisotope laboratory for high school and college science programs is described in this bulletin issued by Nuclear-Chicago Corp. The laboratory is an integrated system of instruments, radiochemicals and

laboratory accessories for teaching radioisotope applications in chemistry, physical science and life science courses. The bulletin gives details and specifications on each instrument in the system and also lists a bibliography of articles related to training in radioisotope applications.

For a free copy of this bulletin, circle number 830 on the Reader Service Card.

▼
Unbreakable laboratory ware. A 24-page catalog detailing polyvinyl, polypropylene and polyurethane plastic laboratory apparatus has been released by General Scientific Equipment Co. Laboratory ware made from these materials is light-weight and highly resistant to chemical attack. Over 100 products are illustrated and described in the catalog.

For a free copy of this catalog, circle number 866 on the Reader Service Card.

▼
Curtain walls and windows. Ample illustration of typical installations, design recommendations and comprehensive specifications are featured in the Geyser Co.'s 1960 catalog of curtain walls and window components. Information on dual glazing and the company's system for incorporating color on grid members are also included together with details on design procedure and economy recommendations.

For a free copy of this catalog, circle number 886 on the Reader Service Card.

▼
Fire control equipment. A 28-page, illustrated catalog containing up-to-date engineering facts and specifications on a variety of fire fighting products and components, is offered by Fyr-Fyter Co. Separate sections are devoted to different kinds of equipment and comprehensive details are given for cabinets, cabinet finishes, door choices, hardware and unit dimensions.

For a free copy of this catalog, circle number 829 on the Reader Service Card.

▼
Elementary science materials. Simple, practical materials suitable for natural and physical science programs on the elementary level are described and illustrated in a 38-page catalog available from World of Adventure. Indexed by subject matter, the catalog offers materials designed for use
continued on page 134

LASTING QUALITY at LOW COST *Smithcraft* FEDERAL

Quality Smithcraft construction for extremely long-term use.

Your choice of steel or plastic side reflectors.

High lighting efficiency, in cutoffs of 35 x 25, 35 x 45 or 45 x 45.

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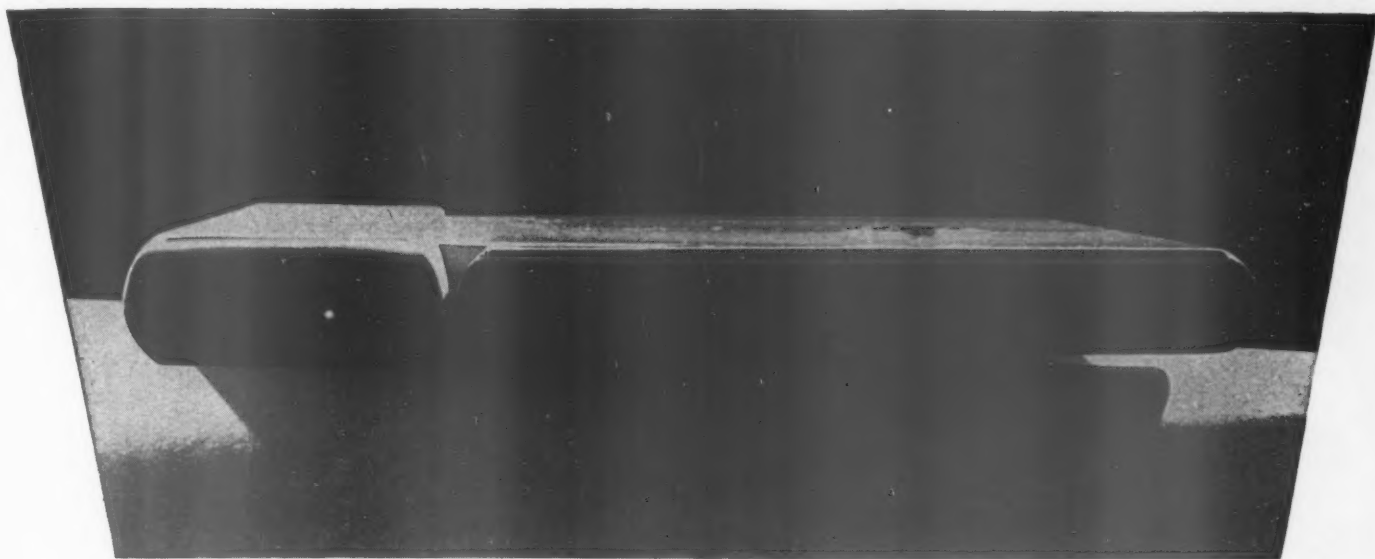
Available in 4 or 8-foot lengths, with 2 lamps. Also in matching 4-lamp unit.



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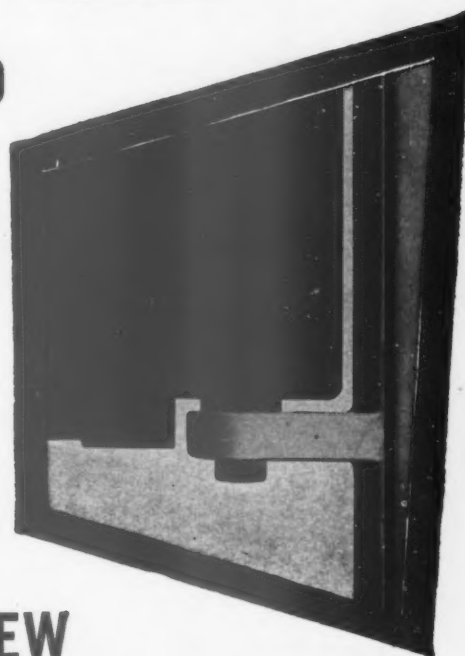
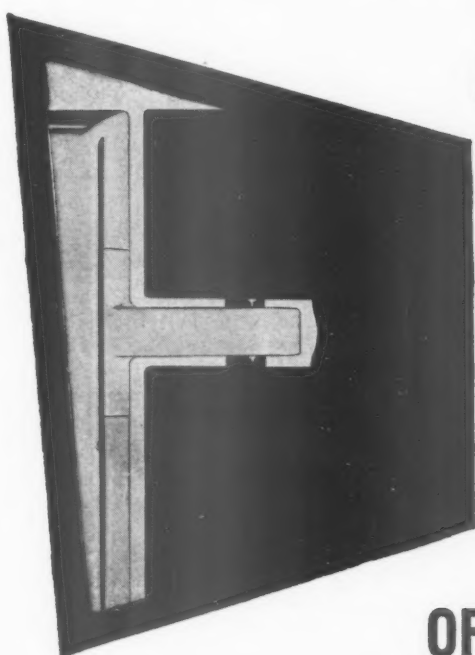
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RECESSED DOOR HINGE AND INTEGRAL BRACKETS



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School Administrator

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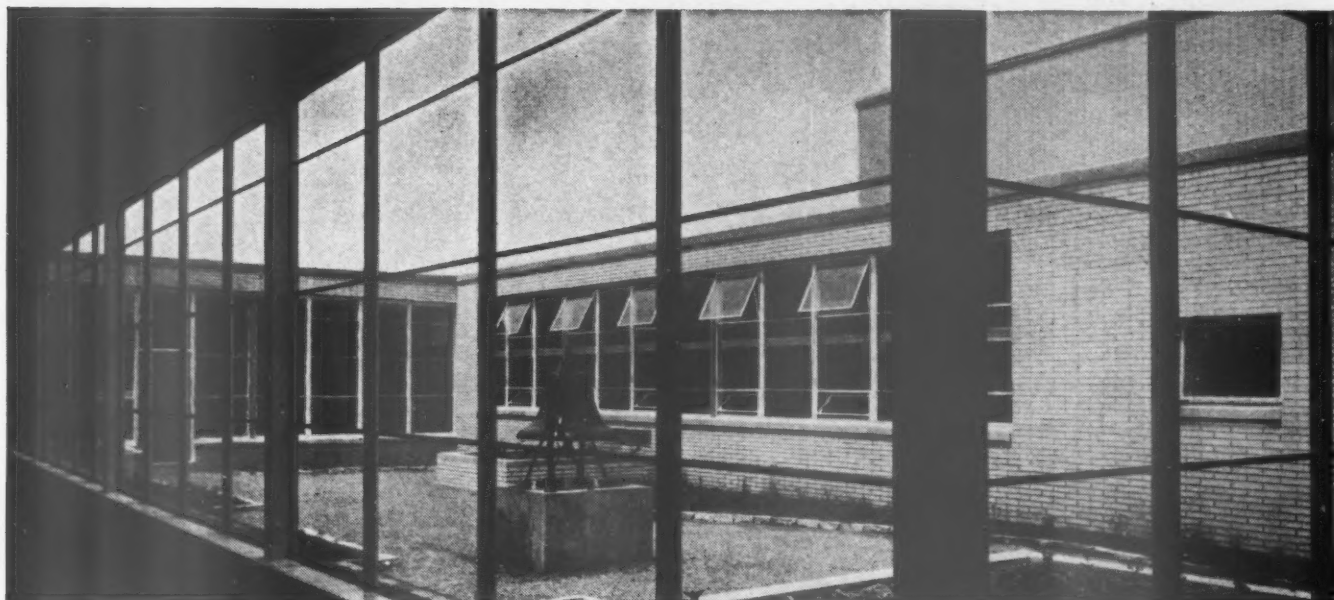
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Big and roomy interiors are designed for student convenience. Built-in shelves hold extra books and personals. Built-in louvers assure free-flow ventilation—keep locker interiors fresh and clean smelling the year 'round. All steel construction—fire proof.

Bonderized, too! This exclusive Republic feature provides a superior base for the baked-on enamel finish. Offers protections against rust and corrosion. Restricts bumps, scratches, abrasions of everyday service to the site of the injury. Reduces maintenance costs.

Republic Steel Lockers are available with any of the popular locking devices. Handle is attached with a tamper-proof Gulmite screw and lockwasher.

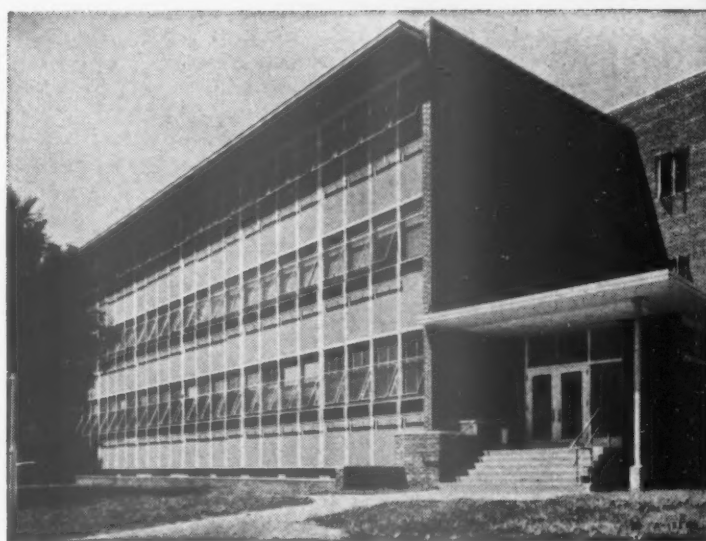
Your Republic representative will help you with your locker planning and assume full responsibility for complete installation. Call, or write today.



TRUSCON METAL BUILDING PRODUCTS are designed and produced to preserve the beauty of modern school architecture. Slim, trim, Truscon Steel and Aluminum Windows let more sunlight and fresh air in, give depth to exterior vertical and horizontal building lines. Truscon Commercial Projected, and Donovan Steel Windows were used in the construction of the Jefferson-Morgan Junior-Senior High School, Jefferson, Pa. Architects: Celli and Flynn. Contractor: Graziano Construction Company.

TRUSCON VISION-VENT® WINDOW WALL UNITS offer a fast, economical method of school construction. Complete flexibility. Select practically any type of window — double-hung, or intermediate projected as was used in the construction of the Engineering Science Building, Fairleigh Dickinson College, Teaneck, N. J. Architects: Fellheimer & Wagner, New York, N. Y. Contractor: Frank W. Bogert, Hackensack, N. J. Send coupon for details and data.

REPUBLIC BOOKSHELF UNITS offer school administrators complete flexibility in designing modern library facilities. Sturdy, steel shelving is adjustable to any book height. Available in sizes 36" wide, 9¼" or 12¼" deep, and 84" or 90" high, and counter size, 42" high. Economical, too. Six popular colors. Available from convenient warehouse locations. Write for more information.



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Defective wiring beneath a stage was reported to be the cause of fire which gutted this 2-story brick, wood-joisted grade and high school in Campbellsburg, Ky. on January 6, 1960.

When a school flunks fire safety

Fire struck this school one chilly morning at four-thirty. There were no sprinklers to arrest the flames. The loss to the community was badly needed classroom space, plus upward of perhaps half a million dollars in tax money for replacements.

Grinnell sprinklers could have averted this loss. Grinnell sprinklers are alert to stop fire, night or day. Recent tests conducted by the Los Angeles Fire Department confirm that an automatic sprinkler system is also one of the best means of reducing heat and poisonous smoke, which so often are

the real killers when fire breaks out.

Records maintained for more than 60 years by the National Fire Protection Association show there has never been a loss of life from a fire in a school classroom building completely protected by an automatic sprinkler system.

Protect lives and property under your care. Get the facts about automatic protection with Grinnell sprinklers. Let us show you how lower insurance rates will help defray installation costs. Write Grinnell Company, Providence 1, Rhode Island.

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AUTOMATIC SPRINKLER FIRE PROTECTION SINCE 1878

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THINGS YOUR PUBLIC OUGHT TO KNOW

Basic information that schoolmen can use as a part of a community education program

Derthick answers Rickover

Editor's note: On Feb. 3, 1960, U. S. Commissioner of Education, Lawrence G. Derthick, appearing before an appropriations subcommittee of the House of Representatives, was invited by Chairman John Fogarty (Dem., R. I.), to answer charges made by Admiral Hyman Rickover at an earlier hearing of the same group. We have selected three of the Admiral's charges and the Commissioner's answers. The whole text of Dr. Derthick's statement is available in a 36-page booklet from the U. S. Government Printing Office under the title "Review of the American Educational System," and is, of itself, something that your public ought to know.

CHARGE BY RICKOVER:

I consider the pamphlet put out by the Office of Education, entitled "Life Adjustment Education for Every American Youth," the most anti-intellectual document I have read in a long time.

ANSWER BY DERTHICK:

The bulletin, "Life Adjustment Education for Every American Youth," is widely misinterpreted. It was published by the Office of Education some 10 years ago at a time when about 60% of our boys and girls were dropping out of high school before graduation. This figure has now been reduced to approximately 35%. The bulletin was designed primarily to help solve the drop-out problem and was focused not on the college preparatory or vocational groups, but on the so-called non-academic or uncommitted youth.

Although the Commission that wrote the bulletin made no sugges-

tions for the college preparatory or vocational groups, it did point out that the principle of life adjustment could be applied to all youth. This suggestion was made in a spirit similar to that of a recent bulletin of the General Electric Corp., which says:

"'Education for living' may be an unfashionable phrase just now, but it will be an essential of the decade to come. In our view it will have to prepare the man of tomorrow for his role in the new age with a discipline and a purpose that may be lacking today."

On the basis of its broad definition of life adjustment education, the Commission would undoubtedly have considered current efforts to upgrade college preparatory programs in physics and mathematics as excellent life adjustment education. The Commission also would very likely have approved the continuing efforts of the Office of Education and the Department of Labor to prevent youth from dropping out of school.

CHARGE BY RICKOVER:

The Office of Education—like the National Education Association—keeps on trying to perpetuate the illusion that ours are the best schools in the world and that only we try to educate all our children. It keeps on equating the college-preparatory course in our high school with the European academic secondary school, which I consider erroneous.

ANSWER BY DERTHICK:

In making comparisons of our educational system with the systems of our neighbors in Western Europe,

we must recognize that the philosophies underlying education in one country and in another differ greatly.

It should, therefore, be made clear at the outset what some of the contrasting characteristics of the European and American systems are.

The United States is committed to universal education not only at the elementary but at the secondary level.

It has as its goal the provision of education for each child to the limit of his ability, regardless of his social or economic background.

This approach is consistent with our American concept of a democratic society made up of inter-related and inter-dependent groups and functions. Thus, the future homemaker, industrial or agricultural worker, businessman, and the professional person study in the same environment and pursue the same basic courses. In addition, each is able to receive the kind of special training which will permit him to carry out his interest whether for further education or for employment. It has been customary in the United States to leave the door to further education and advancement open to the individual at every stage and age.

In contrast, the tendency in European countries has traditionally been:

- To exercise a high degree of selection at various educational levels, with the first of the critical screenings occurring at the age of 11 or 12.

- To provide beyond that point terminal education for those consid-

continued on page 28



CHEVY SCHOOL BUSES GIVE "EXTRA MARGIN OF SAFETY" BY REDUCING DRIVER FATIGUE FOR CALIFORNIA SCHOOL DISTRICT

With an all-woman driving team, Warren Jones, transportation supervisor for the East Whittier City School District, feels that driver fatigue is a critical safety factor in pupil transportation. And, as he puts it, "Our 1960 Chevrolet school bus chassis provide us with an important margin of safety—the reducing of driver fatigue. Operating as we do in rough, hilly terrain and over roads with lots of tough curves and corners, Chevy's new suspension system makes for easier handling and a smoother, more even ride for the children and driver. With a 'cargo' of more than 40 elementary school age children on each of our 330 separate routes," he continued, "that's mighty important!"

And, as Mr. Jones has found out, safety isn't the only benefit these revolutionary new chassis provide. There's economy, too. With independently suspended front wheels to step right over bumps, the severe impacts that can damage bodies and wear out tires before their time are virtually eliminated. It's a ride that adds up to a big savings on maintenance and replacement costs, as well.



Extra value, extra reliability is built right into these Chevrolet chassis—with tough new frames; brawny crossmembers and new, rigid box-section construction for added torsional rigidity. It's a build that will withstand day-in, day-out poundings over the roughest roads and still deliver peak performance and trouble-free service.

For safety, for reliability, for economy . . . no other school bus chassis design can compare with Chevrolet. So when you plan to replace your present equipment, or if you plan to add to your school bus fleet, look to Chevrolet first. You need look no further. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

THE VALUE BUY FOR YOUR SCHOOL SYSTEM



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SPAL, CONCENTRATE SOAPLESS DETERGENT SPEEDS MOPPING, SCRUBBING AND STRIPPING

You can save time on all three of the toughest floor maintenance jobs with Spal Concentrate soapless detergent.

Spal cuts through soil fast but saves the surface. Soil is attacked chemically as well as mechanically. It remains in suspension and is easily rinsed away. Spal creates no soap film to dull the floor. The high-speed action of Spal shortens mopping and scrubbing time, allowing other work to be done in the time saved.

Spal Concentrate soapless detergent is so powerful that a little goes a long way...only two ounces to a gallon of water cleans most floors efficiently. A higher concentration quickly strips wax. Spal can be used on ar. surface unharmed by water alone...walls, furniture, equipment, upholstery and rugs, to name only a few. See our representative, the Man Behind the Huntington Drum, for full details. • Huntington Laboratories, Huntington, Indiana, Philadelphia 35, In Canada: Toronto 2.



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ered ill-equipped to prepare for higher education.

- To offer a rigid academic secondary program for those destined for the university.

- To restrict the possibility of moving from the non-academic to the academic stream once a determination of ability has been estimated through testing.

To put the matter briefly, the design of European education has been, for a long time, to prepare an elite. As you know, the design of American education is to expand constantly the general level of education for all, while preparing an increasing proportion of our young people for college.

It is reasonable, in the light of these differences in philosophy and purpose, to compare 16- and 17-year-olds in Western Europe with our own young people of the same age. To get an accurate picture, let us look at the number of individuals in this age group in both Western Europe and this country.

The great majority of our 16- and 17-year-olds are enrolled in a high school where they are receiving both a general education and such specialized training as fits their aptitudes. Of these, approximately two-thirds complete their secondary schooling. Nearly 50% of those who graduate now enroll at institutions of higher learning. This is not true in Europe. The great majority of the same age groups in Western Europe either are not in school at all or are receiving part-time vocational training with very little, if any, general education.

Those in Western Europe who receive an academic secondary education constitute between 10% and 20% of the 16- to 17-year age group. Less than 10% of *this* group completes such training. In our country about 10% of this age group attains membership in the National Honor Society. Therefore, if comparisons of academic achievement are to be made, they might more properly be made between our honor students and a similar proportion of students enrolled in the academic secondary schools of Western Europe.

CHARGE BY RICKOVER:

I do not agree with . . . claims that American education is the best
continued on page 31



Are you pooped, parched and paralyzed . . . because your floors always seem to need care and attention?

Be at peace with the world . . . and proud as a peacock! **STEP-AHEAD** floor finish almost makes maintenance a pleasure!

Johnson's Step-Ahead cuts your work in half!

STEP-AHEAD SAVES WORK . . . by requiring far less intermediate maintenance. You don't need to damp mop, buff or touch up nearly so often, because **STEP-AHEAD** resists scuffing, dirt pick-up and rubber marking like no other finish.

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Your first drum of tough STEP-AHEAD can save you enough to pay for the next two! For proof, call your local Johnson's Wax Distributor today. Write for his name to Johnson's Wax, Dept. SM5, Racine, Wisconsin.

STEP-AHEAD is a product of **JOHNSON'S WAX**

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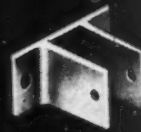
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HARDWARE

Get away from coatings and plating, and you have the solid-metal strength and durability that's needed in toilet compartment hardware.

That's why Fiat *LIFE-LINE* Harmonized Hardware is solid-to-the-surface selected alloy... aluminum above the floor, stainless steel for floor shoes... all in a harmonizing satin finish that blends with any decor.

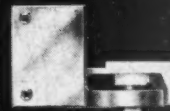
It's top quality, furnished without exception for every Fiat Enclosure installation because it's been tested and proved best for the purpose.



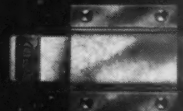
S-2 Alloy Wall Stirrups



S-2 Alloy Top Hinge Bracket



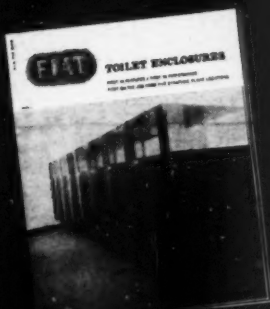
S-2 Alloy Bottom Hinge Bracket



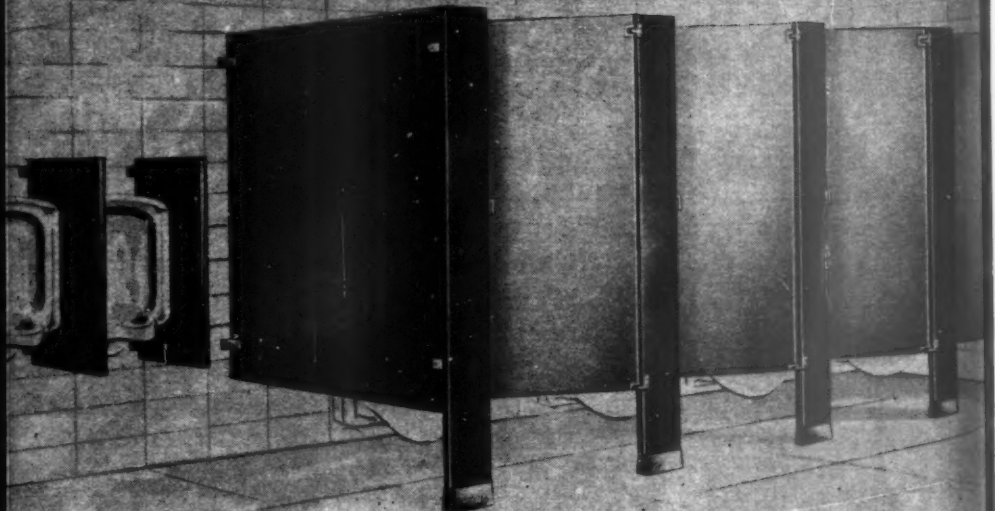
S-2 Alloy Slide Bolt



Stainless Steel Plinth



Send for new Brochure: "Fiat Toilet Enclosures" to get the facts about the FIAT line, as well as architectural details and specifications.



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in the world, that we cannot learn from the educational practices of other countries.

ANSWER BY DERTHICK:

What would it be like to have the traditional European system? At approximately age 11, your child would take a series of national achievement tests, and his performance on these tests would largely determine his future track or specialized secondary school, if any. His whole future might well depend on these tests. Think of your own experience back in the fifth grade of elementary school. What marks were on your report card? Would you have been placed in the classical high school for college-bound professionals or would you have been placed in another school where your education might have ended at the age of 14? Would you have been happy to have somebody else determine what your future would be by deciding what type of education you should have after the age of 11 or 12?

Let us ask, too, why have the rigid class barriers of many Western European nations been maintained? Why have most class barriers in this country been removed?

More than 50 years ago American parents decided that they would not give any person the right to close any doors to the future for their 11-year-old children. They made this decision with a full knowledge of the system of education used in Europe—and of the social consequences of this system.

I regard the American comprehensive high school as a distinctive American contribution to world culture. Many of our visiting foreign educators agree with that appraisal. They often wonder why anyone makes proposals to adopt European systems which are even now being modified in the American direction. I hope the critics of our high school system will read Dr. Conant's "The Child, the Parent, and the State" which he closes with this prophetic expression of his faith:

"They [the historians in the year 2059] will regard the American high school, as it was perfected by the end of the 20th Century, not only as one of the finest products of democracy, but as a continuing insurance for the preservation of the society of free men."

End

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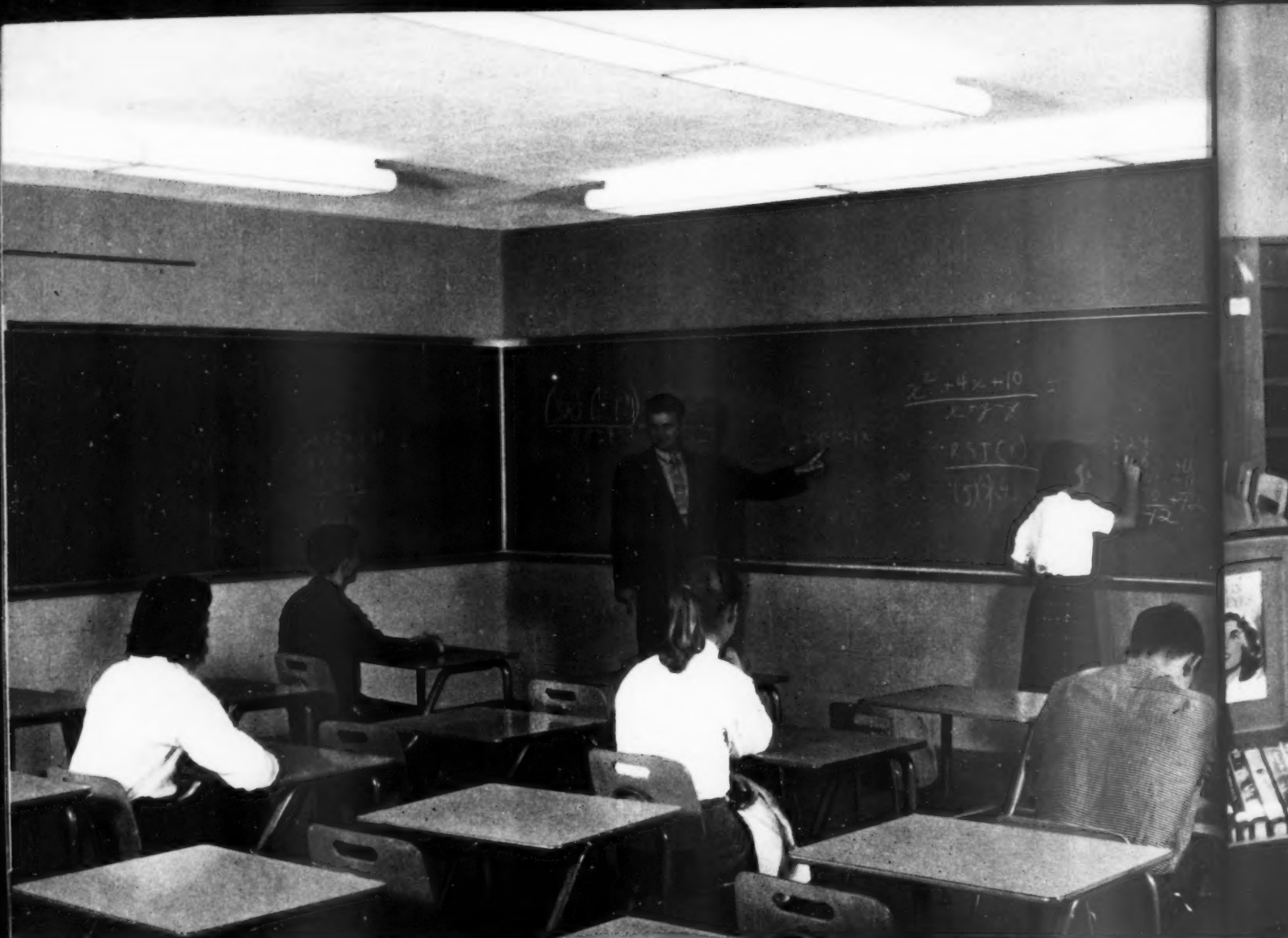
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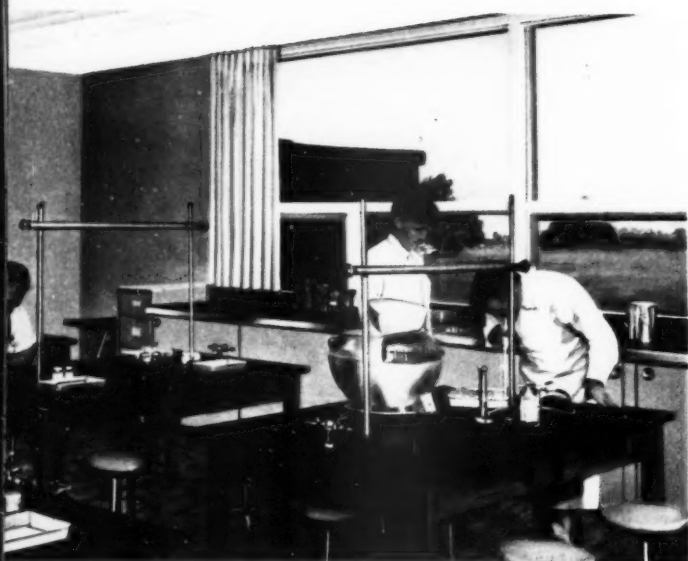
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In this pleasant classroom a light value of a warm color is used to counteract the effect of cool light from north and east windows.

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This science room has been painted a neutral hue to make color perception easier.

Modern system of painting assures better grades and behavior patterns for students of all ages.

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Eye Rest Green is effectively used in this library because it is calm and restful and relieves eyestrain of pupils at work.

R DYNAMICS®

that improves learning processes

cool relief into rooms that face a bright sun. Cold, cheerless rooms are transformed into cheerful areas. Small, stuffy rooms are made to seem spacious and airy.

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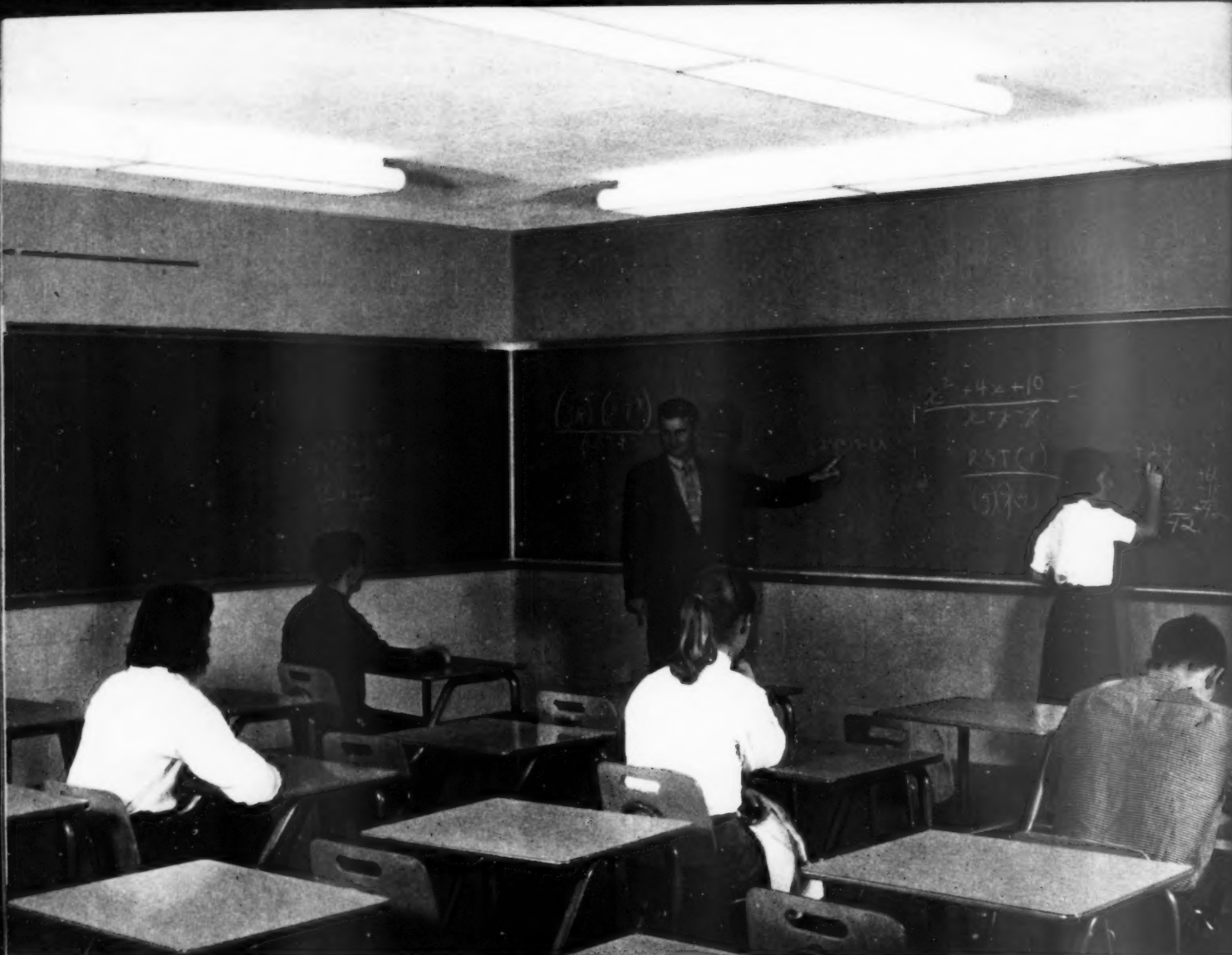
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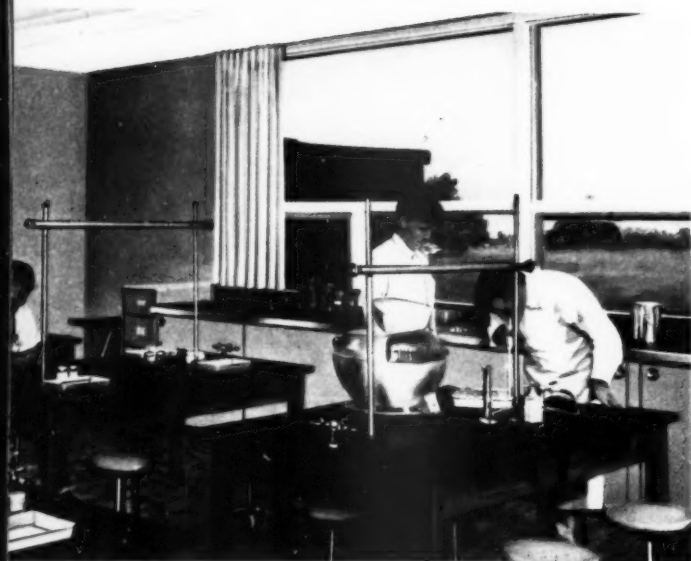




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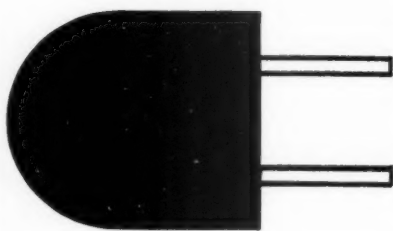
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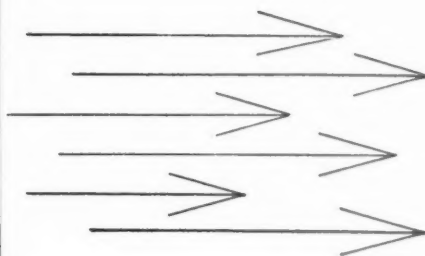




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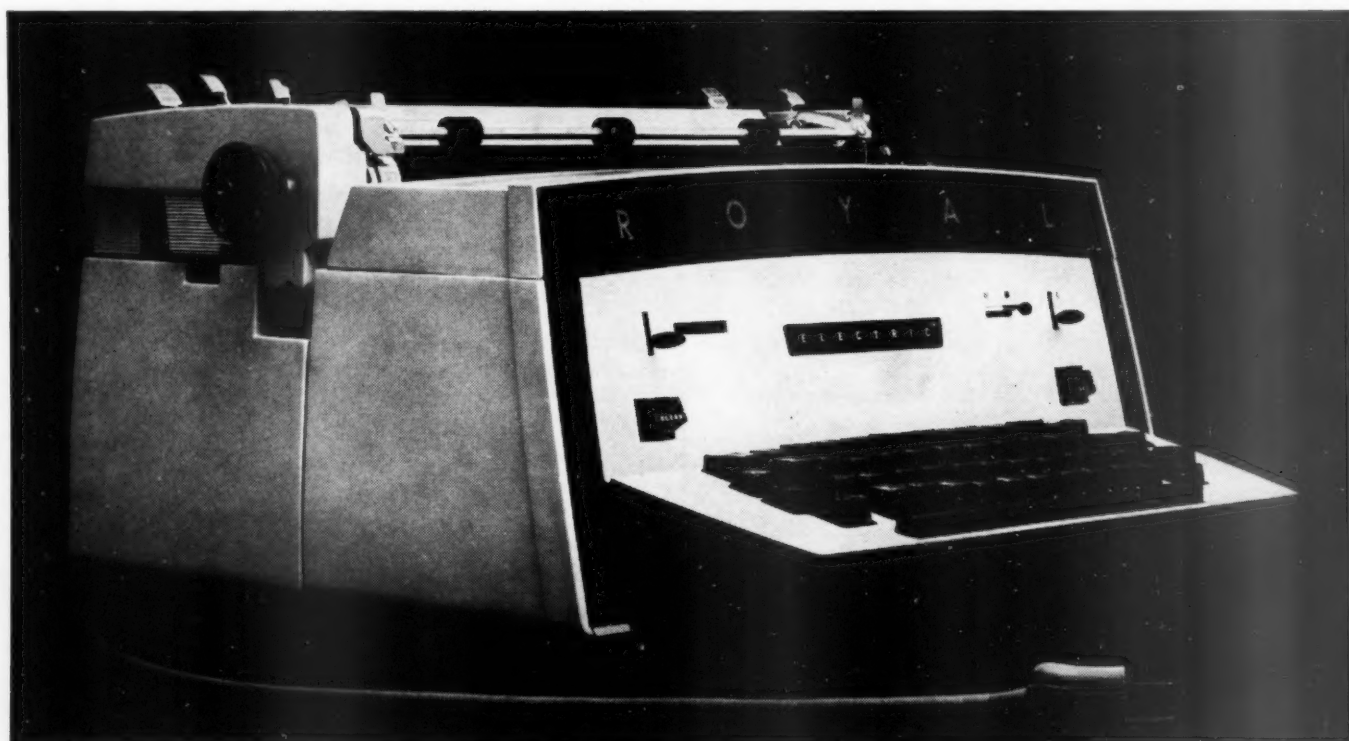
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Considered as supplements to standard texts in school supervision, they should prove helpful in college classes. They should also be of value to those conducting supervisory workshops, staff meetings and conferences in our schools. Though the cases can be used by individuals who wish to learn more about the problems of supervision, only limited insight can be developed through reading them alone. In a group situation each person views the case from a somewhat different perspective depending upon his own training, experience and personality. Thus, used in group situations, these cases can help participants sharpen their own points of view and discover many implications which they as individuals might have missed.

CASE STUDIES IN SCHOOL SUPERVISION, by J. Bernard Everett, Mary Downing and Howard Leavitt. Rinehart & Co., Inc., 232 Madison Ave., New York 16, N. Y. 58 pages. \$1.

SOVIET EDUCATION

Viewed at firsthand. Sixty-four American school administrators spent a month touring the Soviet Union last October. Their conclusions about the Soviet educational organization have been published in a 63-page report of their experiences. Here are some highlights of the report:

Lectures, assignments and recitation predominate in the Russian schools. The touring administrators found no evidence of individual research by pupils, of classroom discussions or of teacher-pupil planning. Discipline is firm and parents are called in to answer for their

children's misbehavior. The school buildings, judged by Western standards, are ordinary and often poorly constructed. Both teachers and students, however, are dedicated to education as a means of achieving national goals. The status of teachers is apparently high in the Soviet Union, with financial awards and national recognition going to those who do outstanding work.

A FIRSTHAND REPORT ON SOVIET SCHOOLS. NEA Division of Travel Service, 1201 16th St., N. W., Washington 6, D. C. 63 pages. \$1.

SCIENCE STUDY

Chemistry in elementary school. Designed to help elementary school supervisors and teachers advance the study of chemistry in their schools, this booklet of experiments primarily emphasizing chemical principles contains background material for their guidance. It encourages them to enlist the children's assistance in performing some experiments and in working out others. Part of the booklet is aimed at children from kindergarten through third grade, part at children from fourth through sixth grades.

A glossary of chemical terms, a simplified Periodic Table, and a bibliography of books about chemistry for teachers and children are also provided.

MATTER, ENERGY AND CHANGE: EXPLORATIONS IN CHEMISTRY FOR ELEMENTARY SCHOOL CHILDREN. Education Department, Manufacturing Chemists' Assoc., 1825 Connecticut Ave., N.W., Washington 9, D. C. 50 pages. 1-3 copies, 50 cents each. Larger orders, 40 cents per copy.

SCHOOL FINANCE

Sales of public school bonds. Administrators and others concerned with the construction and financing of public schools will find this report on bond sales most informative. This marks the first time that statis-

continued on page 39



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★ 9-in-10 washers are fastened with TOO LONG or SHORT SCREWS thus loosen and destroy themselves. Leaks quickly follow!

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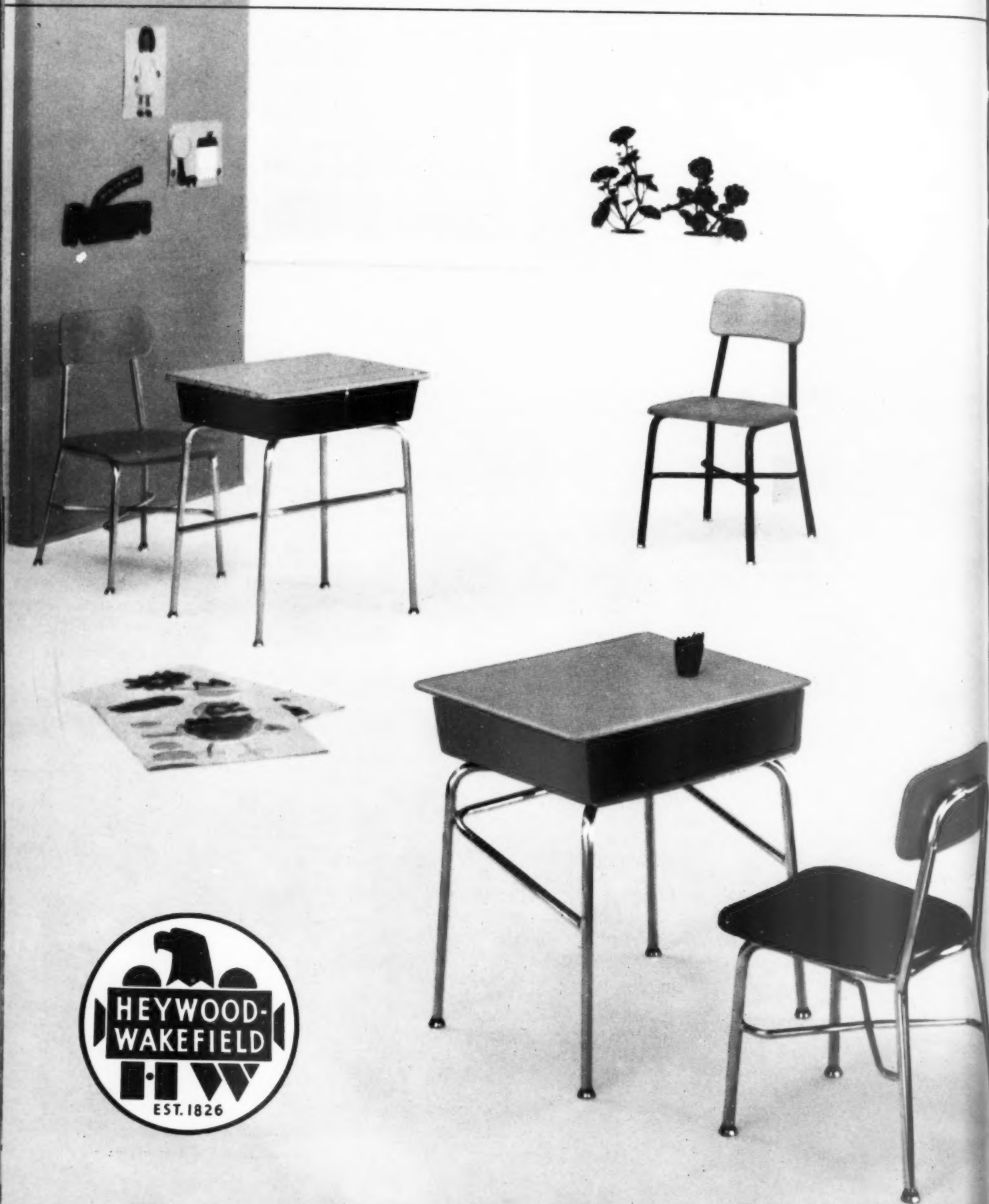
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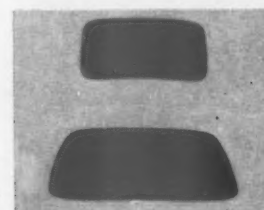
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Scientifically shaped and saddled, molded plywood seat to encourage correct sitting posture. Roll-over front eliminates "under-the-knee" discomfort. Molded plywood back is in proper ratio to the seat for maximum comfort.



Seats and backs are available in solid, kiln-dried hardwoods for long wear. In attractive natural finish, seats and backs are shaped and saddled for utmost comfort. Scientific ratio of pitch meets good posture standards.



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The laminated lifting lid desk top has a solid hardwood core to assure a permanent bond between the plastic surface and the center solid wood. The large size, long-wearing laminated top operates on completely enclosed, silent action, friction hinges. The bookbox is made of heavy-gauge steel.



Pan-type diffusers of PLEXIGLAS in classrooms and cafeteria of Roosevelt Elementary School, Middletown Township, Pa. Diffusers are 1' x 4', 2' x 4', and 4' x 4' in size.



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tics of this nature have been published in such detail. The Office of Education analyzed almost six years of data to provide the necessary background materials. Included in the report are the sizes of bond issues, discussions of national totals, the value of bond sales and the issuers of school and municipal bonds. Regional and state totals are also given. School bonds are specifically defined and the types of bonds available for school purposes are described. Tables give state and national figures for school bond sales from October, 1953, through June, 1959.

STATISTICS OF BONDS SOLD FOR PUBLIC SCHOOL PURPOSES: OCTOBER 1953-JUNE 1959. U.S. Government Printing Office, Washington 25, D. C. 16 pages. 20 cents.

CURRICULUM

High school program. An informative bulletin, produced by the staff of Leyden Community High Schools, Franklin Park, Ill., presents a concise, over-all picture of the curriculum offered in the district's high schools. The material, developed during in-service training sessions, covers departmental course offerings with emphasis on course outlines, objectives, teaching materials and methods and testing techniques. Included are sections on art, business education, foreign languages, health and physical education, homemaking, industrial education, mathematics, music, science and social studies. Also discussed are curriculum services—audio-visual aids, library and guidance programs—and the provision made at Leyden for the education of superior and talented students.

CURRICULUM SKETCHES. Published by Leyden Community High Schools, District No. 212, 3400 Rose St., Franklin Park, Ill. 24 pages. Free.

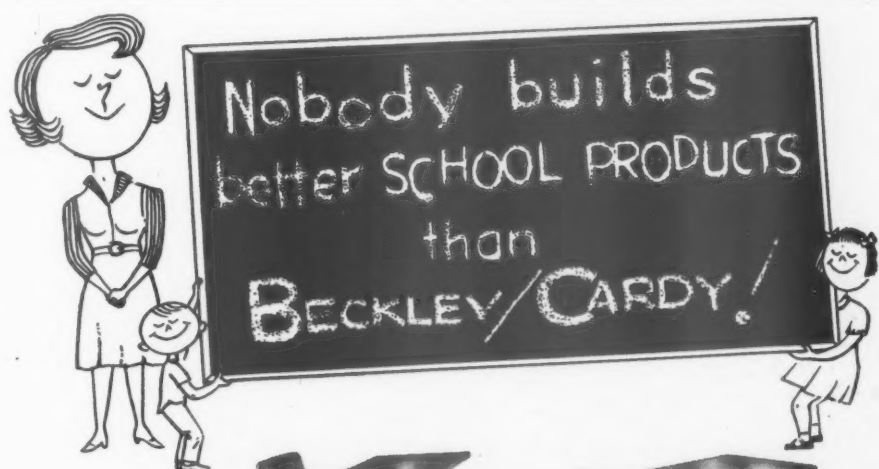
English for the gifted. Educators working with the academically talented students feel that while many have been motivated to do A work in science, mathematics and foreign language, they are earning only C's in English. This NEA book describes programs of enrichment, special grouping and acceleration in English courses designed to balance a curriculum otherwise overweighted with science and math.

Described are high school special "depth" classes and seminars in literature and creative writing, programs in which professional writers advise students about careers in writing, classroom libraries run by students and book reviewing by talented youngsters on TV. In discussing under-achievers, the book notes that under-achievement among bright boys seems to be twice as prevalent as among bright girls. Locating the cause, however, is extremely complicated since each case seems to be unique.

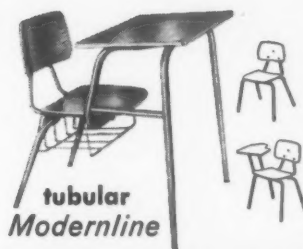
Bright students, it was found, are

often among the most retarded readers in many schools. Gifted students often read below the level of their understanding and after the age of 12 their reading and the amount of time devoted to it frequently begin to decline.

But talented students often rise in later life to positions of influence in which their lack of skills in communication is sorely felt. These are the skills, both oral and written, which should be sharpened now while they are still in school. Without them they will never be able to engage to fullest advantage



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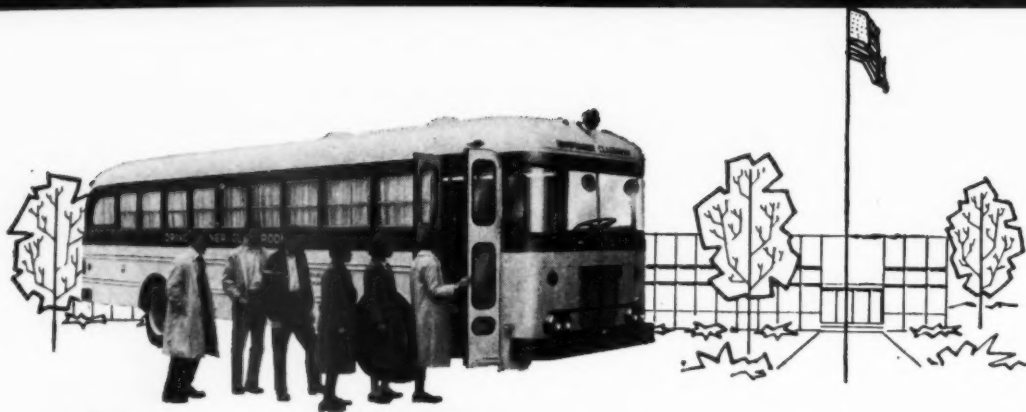
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Mobile Drivotrainer brings better driver education
at lower cost per pupil
to schools graduating under 150

Now it is possible to extend to high schools graduating less than 150 students the same high level of driver education afforded larger schools equipped with the Aetna Drivotrainer classroom system—and at the same savings in teachers, time, and teachers' time!

Drivotrainer, the precision electro-mechanical training device that permits students to "drive" through all kinds of situations *before* actually going on the road, has been adapted to a "classroom on wheels"—a bus fully equipped with a six place training unit. By scheduling instruction at proper intervals, two, three or even more schools in a district can utilize the mobile Drivotrainer

bus. In this way, these important advantages accrue to each school:

Teachers can train more students. Drivotrainer multiplies the number of students that can be taught, *without* increasing the teaching staff. Hours needed for dual-control on-the-road instruction can be *cut in half*.

Students are more proficient. Drivotrainer drills them in emergencies to properly condition their reaction; under dual control, emergency training cannot be included because of the hazards involved.

Better educational value because Drivotrainer exposes students to a full range of learning situations, quickly teaching driving skills, good judgment and developing safer driving attitudes.

All of these combined can only result in LOWERING THE COST OF PER-PUPIL INSTRUCTION WITHOUT INCREASING THE TEACHING LOAD!

Rockwell extends service to schools by manufacturing and distributing the Drivotrainer system which was developed as a public service by the Aetna Casualty and Surety Company. Working closely with a panel of nationally known educators, Aetna invested considerable time, effort and funds in perfecting the Drivotrainer system. With its effectiveness fully documented by responsible educators, the Drivotrainer is in use in schools, as well as in driver re-training programs.

Rockwell will continue to provide the same quality of product and of service which has won for Delta Power Tools a place in 72% of U.S. school shops, and that has made Rockwell measurement and control instruments the standards of quality in their fields. For further information on the Drivotrainer and Deferred Sales Plan, write: Rockwell Manufacturing Company, AVM Division, Dept. 405E, Pittsburgh 8, Pa.



Components of the Drivotrainer are the cars, training films, recorder and projector. Six stationary cars are equipped with all essential instruments and controls, simulate motor noise, clutch "friction point" and brake pedal "feel." Recorder imprints individual student reactions on master score sheet through electrical connections between cars and recorder. Development of manipulative skills, habits and acquaintance with basic traffic patterns is provided in an atmosphere conducive to learning—and at no risk to life or property.

Real test of driving ability is the individual's response to emergency situations. Reaction must be *instantaneous* and *correct*! Conditioning the proper reflex action is done through the use of a series of specially prepared training films. The Drivotrainer equipment is set to permit the instructor to stop the film at any point for discussion and review, and repeat emergency situations until satisfactory level of performance is achieved.

DRIVOTRAINER

another fine product by

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in the public speaking, discussion groups, research and professional writing that will be required of them in their mature years.

ENGLISH FOR THE ACADEMICALLY TALENTED STUDENT. *National Education Assoc., 1201 16th St., N. W., Washington 6, D. C. \$1.*

Teacher education. How can curriculum help create the kind of teacher our changing society needs? Some of the answers are provided in this new report from the NEA. In June of last year, representatives

of nine major educational associations, in cooperation with some 60 single-field associations, met at the University of Kansas in Lawrence for a national conference on the needed changes in teacher education curriculums.

Some of their recommendations, included in this book: provision of a comprehensive program of general education in the student's first two years of college, raising teacher certification standards, requiring of teachers the ability to communicate in language other than their own, and a required understanding of

literature, philosophy, mathematics, the social and behavioral sciences, and physical and life sciences.

THE EDUCATION OF TEACHERS: CURRICULUM PROGRAMS. *National Education Assoc., 1201 16th St., N. W., Washington 6, D.C. 464 pages. \$3.50.*

AUDIO-VISUAL

TV in the classroom. Dealing with one of the major criticisms of educational television—the lack of interaction in the learning process—this booklet presents some suggestions which may alleviate the problem.

Some educators have protested that television is a one-way flow and does not permit enough give-and-take between students and teachers. This report by the Division of Audio-Visual Instructional Service, NEA, defines interaction, presents conditions within the learning situation, describes kinds of interaction and asks, "How much interaction is necessary?" Also suggested are ways in which television's lack of feedback may be overcome in order to increase its effectiveness as a teaching and learning tool.

INTERACTION IN LEARNING: IMPLICATIONS FOR TELEVISION. *National Education Assoc., 1201 16th St., N. W., Washington 6, D.C. 64 pages. \$1.*

Planning and budgeting your program. If you are seeking basic guide lines for a good school audio-visual program and wonder what such a program will cost you, this study by the Office of Education may provide some of the answers.

Twenty-eight case studies cited in the publication report on the strong elements of audio-visual programs that are contributing to the improvement of instruction. Each study includes information on total budget devoted to A-V, as well as information on size of school population, type of school system, per pupil expenditure and length of time the program has been operating.

IMPROVING INSTRUCTION: BUDGETING YOUR AUDIO-VISUAL PROGRAM. *Audio-Visual Center, Indiana University, Bloomington, Indiana. 90 pages. Available free.*

Easy on the Eyes

Easy to Guide

Easy on the Budget



GAYLORD "Steel Rod" Book Truck

Your budget will feel no strain with the new Gaylord "Steel Rod" Book Truck. You save with low cost — long wear. Precisely engineered for perfect balance, it combines a modern "airy" beauty with utmost utility. Lightweight! Wheels fast and easy.

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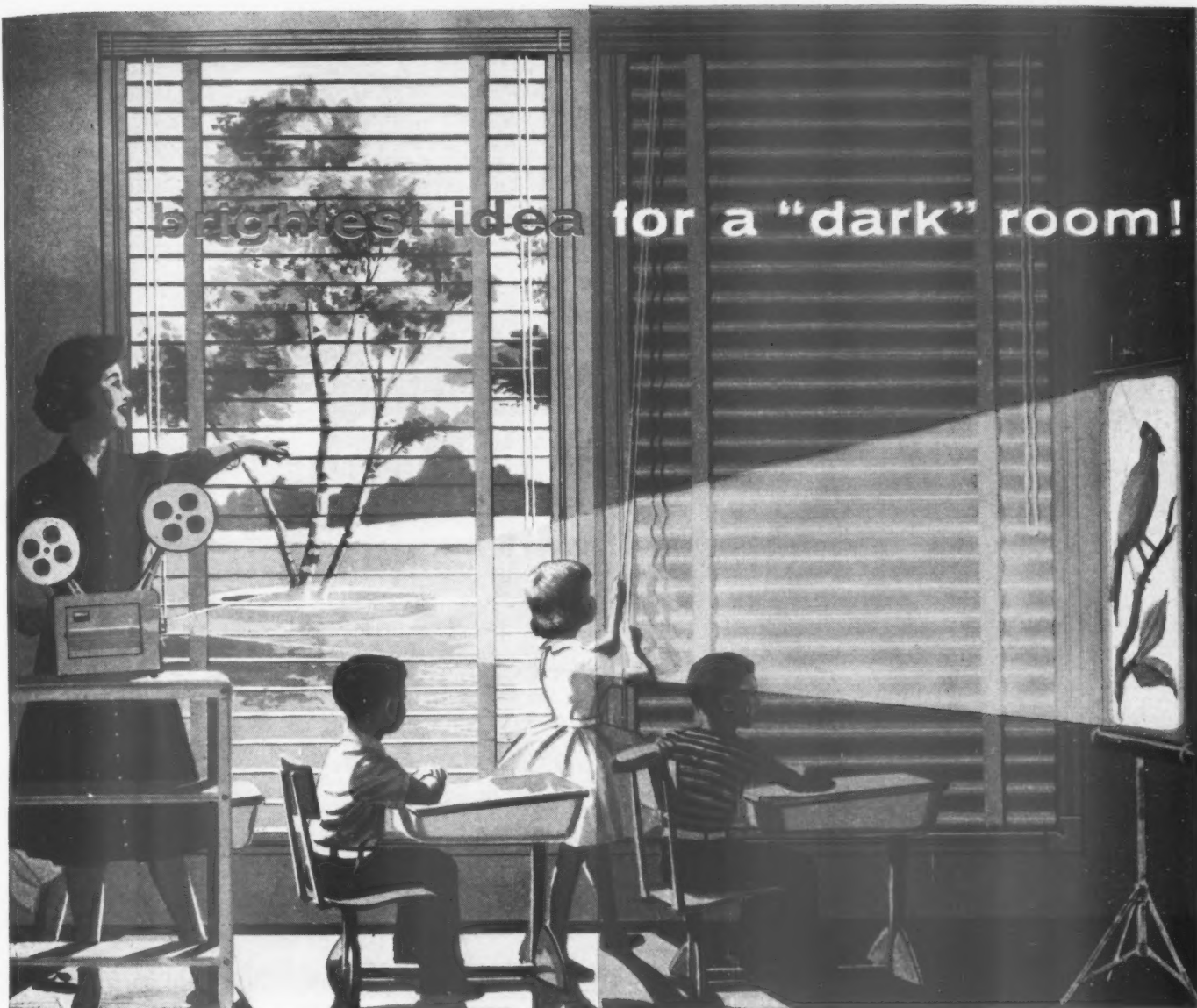
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A digest of current happenings in public education

Study says teaching attracts the mediocre

The teaching profession places a premium upon mediocrity. That's the conclusion of a 12-year study conducted by the New York State Education Department among 1,300 student teachers. A number of significant findings influenced the conclusion.

For one thing, the study found that those who dropped out of undergraduate teacher training programs—and those who did graduate but never entered teaching—had consistently higher achievement scores than those who ultimately entered the profession. Another finding: Those students who dropped out in college because of failing grades were actually better suited (had more "personal characteristics") to teach than the students who finally did become teachers.

Finally, both the failing group and the drop-out group had higher ratios of superior students among them than the group which entered teaching. The study suggests that perhaps a revision of teacher education is in order to assure the profession a higher proportion of superior teachers in the future.

Crowded schools blamed in U. S. flu epidemics

Overcrowded schools may have been the cause of the spread of Asian Flu in the United States earlier this year and during the 1957-58 epidemic. This was the conclusion reached by Dr. Alexander D. Langmuir, a Public Health Service researcher.

Dr. Langmuir, in a report prepared for the First International Conference on Asian Flu, pointed out that incidence of the disease was highest among high school students and young adults. Pre-schoolers were relatively unaffected, but grammar school students were hard hit. The disease rate dropped off among older people.

"The modern American system of education, particularly the crowded consolidated high school which is now almost universal throughout the country, and its system of school bus trans-

portation, probably permits a maximum of transmission among teen-age groups," Dr. Langmuir said.

Diploma refused student who declines loyalty oath

A high school student in New York City will graduate this spring but he will not receive a diploma. The 16-year-old, Edward Jahn, has refused to sign a loyalty oath required by the board of education since the end of World War I.

Jahn, who is being supported in his action by his family, has been described as a good student and "an intellectual who does not accept things easily." His opposition to the loyalty oath is based on a feeling that it is a form of coercion. Jahn's family background is

with the Friends (Quaker) religion.

Although there was a possibility that the youngster, who had won a state scholarship, would be denied college entrance as a result of his stand, Antioch College in Ohio has already signified its willingness to admit him, with or without diploma.

The loyalty oath requirement, which has not been reviewed in 25 years, was news to many New York high school graduates, most of whom were unaware of ever having signed it.

'Pay as you go' levies re-examined in Cleveland

Cleveland school officials are currently debating the adequacy of their "pay as you go" plan which, since the

Too good to miss . . .

Extra time . . . Teachers at Irving A. Robbins Junior High School, Farmington, Conn., now have more time to devote to planning instruction since students took over the school banking program. Ten volunteer student-tellers handle savings for the school's 600 students in the main hall each Tuesday. They collect money, enter amounts, balance deposits and turn everything over to Jasper Arnone, math teacher and banking program supervisor, who sends the savings to a bank for deposit.

Extra pay . . . Rutland, Vermont's, women teachers protested in vain recently over the local board's policy of paying female teachers \$200 less than male teachers. To the charge by the fair sex that the differential was discriminatory, Dr. Gordon B. Smith, chairman of the board's teachers committee, replied, ". . . the man is still the head of the family, the wage earner, and he does need a greater income than a woman."

Extra rest . . . A 30-minute, uninterrupted daily rest or lunch period must be provided for Pennsylvania's women teachers beginning next September. That's what Charles H. Boehm, superintendent of public instruction, ordered in a recent letter to 4,500 school board secretaries and school administrators. The purpose of the order is to do away with the practice—in some schools—of assigning teachers to lunchroom supervision during their own lunch hours, while eliminating their other rest periods.

Extra proof . . . Teachers in the Bristol, Conn., Central High School have felt for some time that they needed a new piano bench, but now they've got extra proof. The old one collapsed mid-way through a concert.

Heels threaten high school prom

Teen-age heels are threatening the junior-senior high school prom in Louisa, Va. The heels are not juvenile delinquents, but the kind girls have on their dancing shoes.

The faculty of the high school started the rumpus by banning spike heels on the shoes of girls attending the prom. The dance is to be held in the gymnasium and the heels dig up the floor.

The girls then kicked up their heels, declaring that they would not attend unless they could wear what they wished.

Worried by the prospect of a girl-less prom, Principal W. D. Meredith took the problem to the school board, but the members merely dragged their heels, ruling that if girls could stand up in them, the board would be hard-pressed to stand up to them.

A final decision is yet to be reached, but if it goes the wrong way, we suspect the faculty will be considered a bunch of pretty dull heels.

1920's, has made use of levies rather than the more usual bond issues to finance school construction.

According to Michael Wach, clerk-treasurer, the school system has saved \$10 million in interest costs under the plan since 1945. In addition, buildings and additions costing \$41 million have been erected or planned—all without floating bonds.

Nevertheless, a re-examination of the "pay as you go" system has been called for in some quarters as a result

of a recent \$27 million building program proposed by administrators.

About \$8 million is on hand for projects already approved in principle. Of the remaining projects, some are in the "may be needed by 1962" group. The total includes two new junior highs, 13 elementary schools, an occupational school for girls and 36 building additions or site improvements.

But this program has been termed inadequate by several outside groups,

notably the Cleveland Teachers Union (AFL-CIO) and the Cleveland Education Association. They call for a building program that may run as high as \$50 million and want to issue bonds to raise the necessary funds.

Cleveland's present levy of 1.2 mills per \$1 of tax valuation produces about \$3 million a year. It will expire at the end of 1960 and the board of education is considering placing a renewal and increase on the ballot in either May or November.

California amends 29-year textbook policy

In its recent decision to buy the bulk of its textbooks directly from publishers, the California State Board of Education reversed a long-standing policy.

For the past 29 years, all basic texts used in California's schools had been printed by the state's Sacramento printing office, using plates leased from publishers. While this system proved cheaper than buying books outright, it deprived districts of many excellent texts published by firms which were unwilling to lease their plates.

Last fall, the state curriculum commission began an evaluation of ele-



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mentary readers—among them, those of publishers who had refused to lease plates for reprint purposes. As a result of the commission's recommendations, 70% of the basic texts ordered by the board of education will come from outside the state's printing office.

About \$3 million will have to be added to next year's estimated state budget to defray the extra costs involved, but this additional cost at the state level is expected to be balanced by savings at the local level. Individual districts are now offered a choice among three sets of basic texts instead of one. Indications are that their need to buy suitable texts—at their own expense—will now be greatly reduced.

Bus time schedule lengthened to beat speeding tickets

School officials in Newcastle, Wyo., have added 10 minutes to a school bus driver's schedule so he can make his rounds without exceeding the speed limit.

Superintendent Marshall Macy said the action was taken after Driver Rex Johnson was cited by police March 15 and given a suspended \$20 fine for speeding.

Police checked the bus route and found there were 46 stops for passengers, stop signs and railroad crossings, which Johnson was expected to complete in 45 minutes. It would be impossible to make one 15-minute segment of the route in less than 20 minutes without breaking speed regulations.

Three R's to be stressed in new Washington, D. C., school

A return to old-fashioned emphasis on drill and firm instruction in fundamental subjects has been proposed by Carl F. Hansen, Washington, D.C. superintendent, for the District's Amidon School to be opened this fall.

According to Hansen, the school will offer "an educational program centering on basic subjects," including "direct and systematic instruction in reading, writing, grammar, speech, mathematics, science, history and geography." Phonics will be stressed in reading instruction, student writing will be encouraged and grammar will be taught in the early grades. "Experience units" and "projects" will play a secondary role in the new school.

It is Hansen's hope that Amidon

Well put

"What would be your reaction if you were in a hospital and saw a surgeon mopping floors while patients lay waiting for him in the operating room?" That was the very succinct illustration used by Elementary School Principal Alvin Broido of New York City, when asked to comment on such "teaching" duties as selling cookies, running errands and opening cartons of milk.

Well put, Dr. Broido.

will improve the accomplishments of its students and perhaps become a model for the entire school system.

New Bible reading law challenged in Pennsylvania

Pennsylvania's new law excusing pupils whose parents object to Bible reading in the schools has been attacked as unconstitutional by a Uni-

continued on page 50

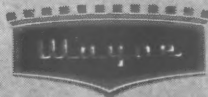
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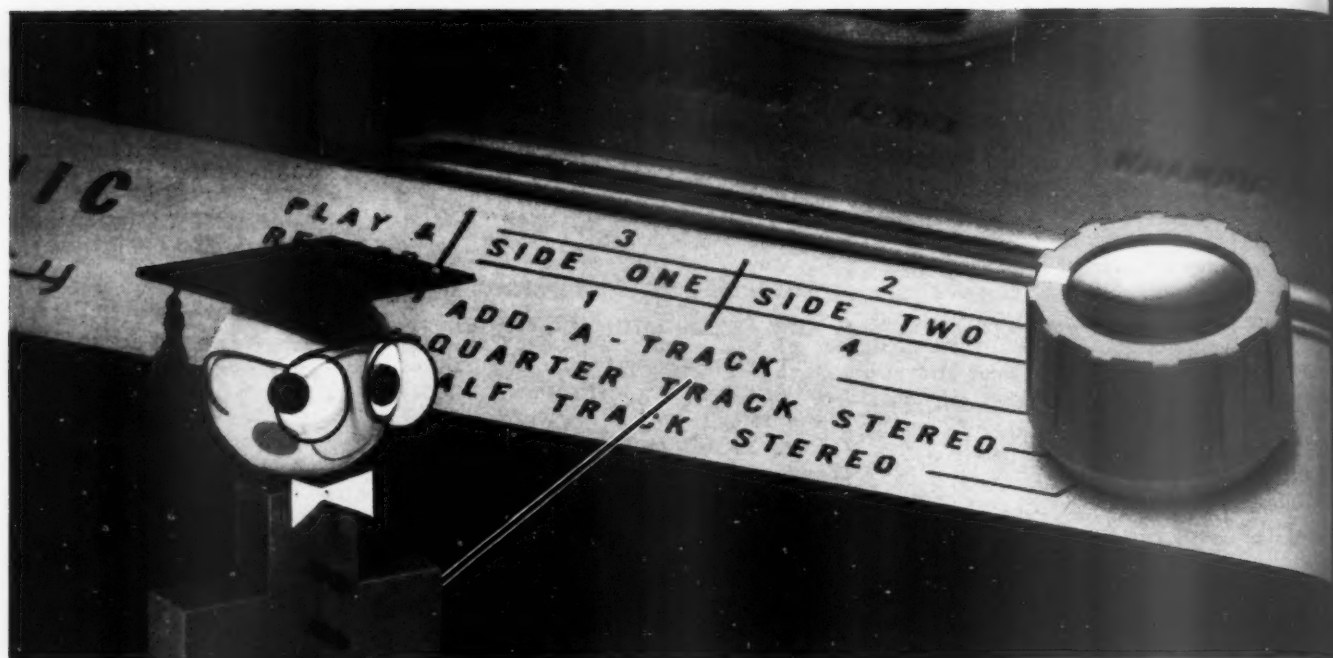
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to the first recording through the V-M recorder's own speakers or through another speaker system. Then playback again and you hear *both* recordings *simultaneously*! The student can re-record his voice or instrument, repeatedly, without affecting the first (or master) track in any way. He can even play a duet with himself!

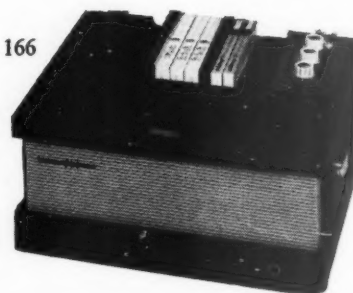
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tarian couple from Montgomery County, Pa.

The couple, Mr. and Mrs. Edward L. Schempp—who successfully challenged an earlier statute—was responsible for the enactment of the new "permissive" law last December. But, they argue, there has been no change in the law except that it permits pupils to be excused from Bible sessions if their parents submit written requests.

It is still the Holy Bible—including the New Testament—that is read, a work "disseminating the religious message of Christianity." According to the

Schempps, the original court ruling—that the old statute preferred one religion over another—applies equally to the new law.

Social club troubles erupt again in Columbus

High school social clubs that have been plaguing school authorities in Columbus, Ohio (*SM*, Oct., '59, page 87), were back in the news recently as

the result of a new attempt to control them.

The Columbus board passed a resolution banning the clubs last spring and mandating that members could not participate in school activities or hold office in the student government. Building principals were given the power to force students to sign non-membership affidavits.

The ruling never went into effect, being successfully bottled up in a court action by a group of parents. Now the board has passed a new resolution banning the clubs but omitting the non-membership oath. Attorneys for the dissident parents have already indicated that they will join in the fight against this rule, too.

"The issue is whether parents decide what groups their children associate with or the school," said Attorney Paul M. Herbert. School authorities have contended that they can regulate the clubs even though they do not operate officially on school grounds.

Ban married students from school activities

One hundred and fifty Iowa high school principals think that married students should not be allowed to participate in such school activities as sports, band and dramatics.

At its recent annual meeting, the Iowa Assoc. of Secondary School Principals and the Administrators of North Central High Schools declared that this might be the most effective way to discourage early marriages among teen-agers. The growing trend in that direction, the administrators feel, can be headed off by the adoption of more stringent school policies toward students who marry too young.

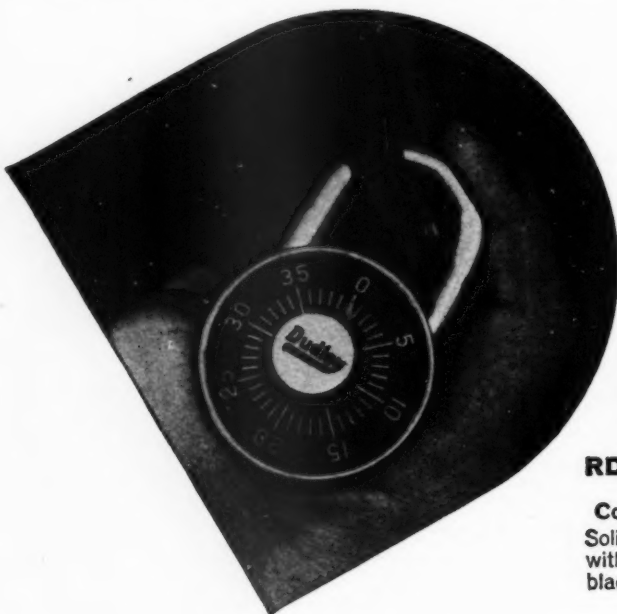
California schools may be on right track

"Mental track meets" have been proposed by a subcommittee of California's Citizens' Advisory Commission on Education to increase students' interest in academic studies.

Under the plan, students would compete for gold, silver and bronze medals in language, English, mathematics and sciences. Those schools sending the greatest number of medal winners into competition would also be recognized with trophy awards.

Mrs. Phyllis Wainwright, chairman
continued on page 54

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Rotating Dial
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Solid stainless steel case
with white numbers on
black enamel.



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Each number of the combination is a working number, making the discovery of the opening combination by trial and error, a practical impossibility.

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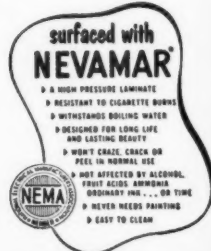


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of the subcommittee on standards and evaluation responsible for the proposal, thinks there is substantial precedent for the idea. "They do it in physical education," she says, "Why not in academic education?"

School board association study lowers fire rates

Ohio's schools are getting reductions in their insurance rates this year as the result of a study made by the Ohio School Boards Association.

An OSBA research project, headed by Kenneth Crim, director of research and teacher procurement in Montgomery County, gathered the facts that made reductions possible.

Ohio's public schools will enjoy reductions of 25% to 30% on current rates for fire resistant and brick buildings. Other institutions—libraries, hospitals, etc.—will get the same treatment.

It is estimated that the schools will save \$640,000 in a single calendar year.

Grade school teachers need master's degree

A warning that grade school teachers had better obtain master's degrees was sounded recently in New York City by Associate Superintendent Florence S. Beaumont, head of the city's elementary school division.

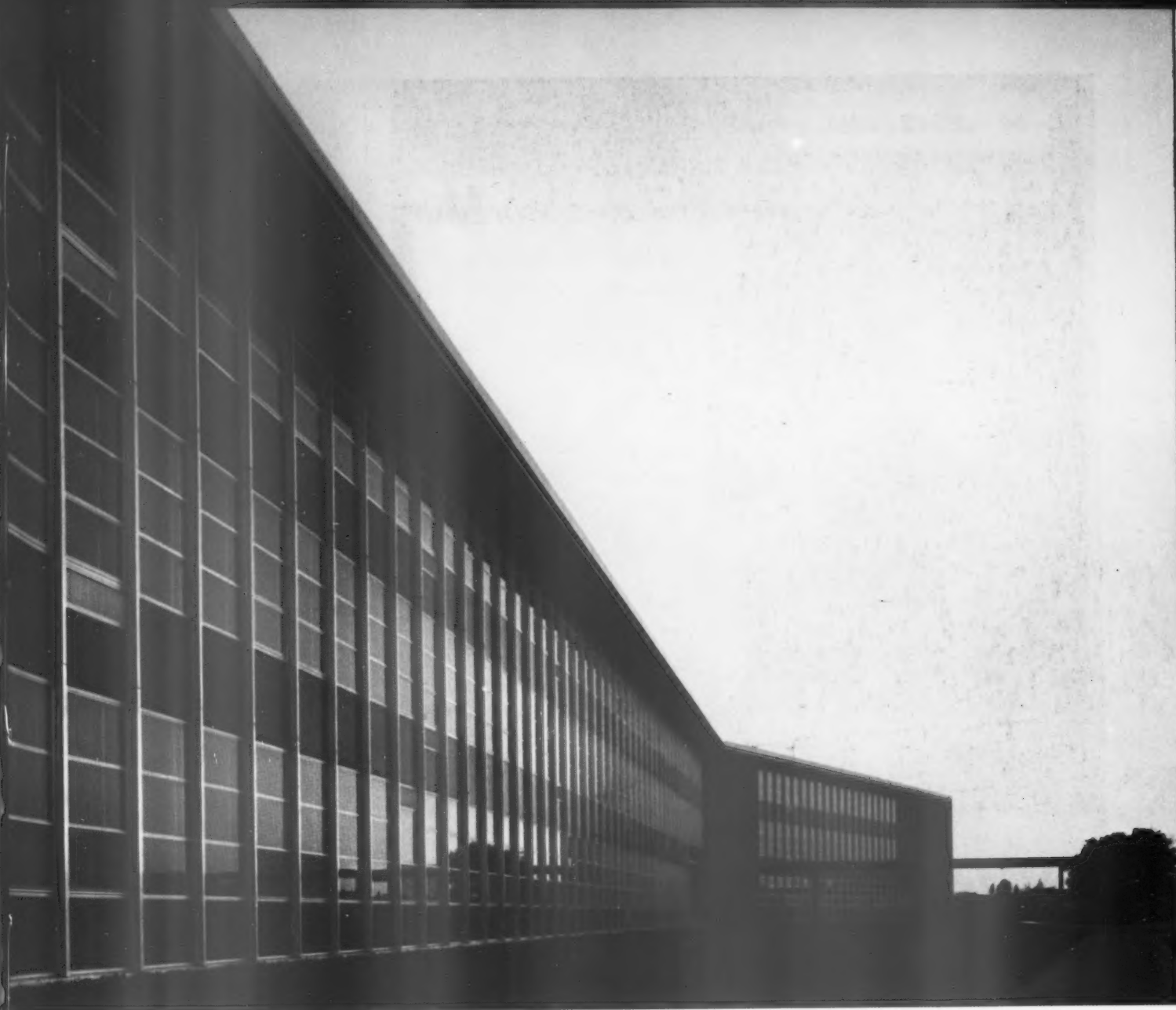
Miss Beaumont warned that otherwise the teachers might get "snowed under" in the current fight for higher salaries. Her statement was prompted by a split in New York's teacher ranks that has led to the High School Teachers Association calling for raises for themselves but not for the less organized elementary school teachers.

New York now has a single salary scale for both—with differences based only on earned degrees. The high school teachers want a higher scale for themselves.

District saves dollars by re-using architect's plans

Cartwright Elementary School District, Phoenix, Ariz., will save up to \$5,000 by re-using old architectural plans in the construction of 20 new classrooms at one school and four in another.

Because plans previously used in the



How Alcoa Aluminum saved taxpayers money on Minnesota school

The aluminum curtain wall construction of Bloomington High School, Hennepin County, Minn., cut wall costs on every square foot. Compared with other types of construction materials, even conservative estimates indicate a saving of many thousands of dollars with Alcoa® Aluminum.

And this aluminum wall weighs only about 5 lb per square foot—where masonry would weigh as much as 90

lb—which means another big saving to taxpayers from reduced loads on foundations and other structural elements. Aluminum saves in many ways! That's why Bloomington's new school used aluminum in so many places: 617 aluminum windows, 621 aluminum panel frames in the curtain walls, plus many pounds of aluminum in screens, louver frames, trim and elsewhere.

The savings go on and on, too.

Light, strong, corrosion-resistant Alcoa Aluminum stays beautiful, needs no maintenance, no painting. Its attractive and efficient design is another added value. Aluminum can save tax dollars in your community, just as it's doing in Bloomington. For complete information, just call your nearest Alcoa sales office, or write: Aluminum Company of America, 1825-E Alcoa Building, Pittsburgh 19, Pa.



Owner: Bloomington Consolidated School District, Hennepin County, Minn.
Building: Bloomington High School
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district will be employed, the firm of Lescher and Mahoney has agreed to do the work for not more than 4% of construction costs, estimated at \$210,000, according to Kenneth Kelly, board president.

Architects generally charge school districts 6% of constructions costs.

Book banning in Miami draws wide-spread protest

High schools in Miami, Fla., have come under heavy fire recently for their actions in banning two world-famous books, "1984," by George Orwell and "Brave New World," by Aldous Huxley. Both describe fictional totalitarian states of the future where individuals are helpless—and rulers censor and ban such items as books they don't like.

The books appeared on the reading list for a senior English course at one high school. The action started when a parent called the principal of North High School and complained that the books contained some "obscene" passages.

The principal, having never read either book, turned the matter over to Superintendent Joe Hall. Dr. Hall hadn't read the books either so he farmed them out to Robert Wilson, director of Dade County high schools. Wilson glanced at each book hurriedly, pronounced them "trashy" and pointed out an "off-color" passage. On this basis the books were removed from the reading lists and also from all libraries in the school system.

In attacking the board's ban, Novelist Philip Wylie, a Miami resident, pointed out "If you haven't read '1984' you can't talk to any intelligent person. To take it away is to bring 1984 censorship closer and do just what the book was written to stop."

Book troubles, continued . . .

Not to be outdone by Miami, school authorities in Louisville, Ky., are releasing a teacher who put another famous novel on a 10th-grade reading list. Teacher Donald M. Fiene had suggested that boys of that grade read "Catcher in the Rye," by J. D. Salinger.

The book was dropped from the reading list following parental protests and now the teacher is being dropped from the school system.

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How to compare your teaching

The second installment of **SCHOOL MANAGEMENT's** Cost of Education Index—dealing with the problems of instructional and administrative staffs and the materials they need to do an effective job—pinpoints the importance of balanced expenditures to quality education.

■ ■ ■ Balanced expenditures are the key to a good educational program. A district that spends too much in one area must, unless its total expenditures are huge, take money away from another.

For example, in considering instructional services of the schools, four elements must be examined together. These are:

1. **The instructional staff**, in terms of salary level and teaching load.
2. **The administrative staff**, also in terms of salary level and work load.
3. **Teaching materials** and the amount of money spent on them.
4. **Clerical and secretarial help** to the instructional and administrative staffs.

These four elements provide the personnel, leadership, supplies and time necessary for good instruction, and they must be considered as a package.

What happens in a district with unbalanced expenditures? Let's say that in order to compete for teachers, your district must spend

82% of its budget on teaching salaries, (the national average is about 66%).

How much can your schools then pay for instructional materials, administration or clerical help? Obviously, comparatively little.

As a result, you may find that with this unbalanced expenditure pattern, your district is attracting good teachers and then very quickly losing them—or watching them deteriorate—because they have few materials with which to work, are overburdened with clerical duties or feel a lack of adequate leadership.

Balancing expenditures can be important within an "expenditure area," too. Let's say your district realizes that to spend 82% of its budget on salaries is going to cause problems. So you determine that you will spend a little less on salaries and more in other areas. You decide to spend 72% of your budget on salaries for instructional personnel. How should you spend it?

If you keep your salary scale competitive with other districts, you obviously cannot hire

HOW THE COST OF EDUCATION INDEX WAS COMPILED

Hundreds of school districts participated in building SM's Cost of Education Index. Each filled out a detailed four-page questionnaire which itemized expenditures for dozens of budget items, for a two-year period (1958-59 and 1959-60).

This questionnaire was devised by Dr. Orlando F. Furno, who is presently with the U.S. Office of Education. It was at his sug-

gestion, and with his guidance, that this project was developed.

The final total of school districts used in the carefully weighted sample was 583. Each was selected because it represented, by virtue of geographical location, size, and cost per pupil, a randomly selected unit of measurement. The accumulated data is being processed in an electronic computer.

costs

as many teachers as before. Therefore you must give the teachers you do have; a heavier teaching load. Perhaps, however, with the extra money you have to spend on teaching materials, you can provide tools to make it easier to handle larger classes.

On the other hand, your decision may be to keep the pupil-teacher ratio where it is but to let your salary scale fall below average. In that case, it is likely that you will lose many of your best teachers and have trouble attracting other good ones. But, perhaps with more money to spend on administration, your district could provide the leadership necessary to help average teachers do a superior job.

These are decisions that must be weighed in each individual school district. This second installment of SCHOOL MANAGEMENT's Cost of Education Index will provide you with some guidelines on which to base such decisions by showing what other districts in the nation are doing and what adjustments you must make to keep pace.

HOW MUCH ARE WE PAYING OUR INSTRUCTIONAL STAFF?

In the first CEI report (see SM, April, '60), it was shown that on the average almost two-thirds of the total current operating budget went for salaries of the instructional staff. (For

purposes of this study, the professional instructional staff includes—in addition to classroom teachers—principals, consultants or supervisors, school librarians, audio-visual, guidance, psychological and television instructional personnel.)

According to the CEI study, the average annual salary for instructional staff in the United States is currently \$5,114. The top quarter of the schools—the Quality Quarter—is paying average annual salaries of at least \$5,825, while the Top Tenth is paying professional instructors \$6,674 or more apiece (see page 60).

(The Quality Quarter is used throughout the CEI articles to indicate those schools that are doing more than the average, but are not necessarily among the Top Tenth—the very wealthiest districts in the nation. It must be recognized, however, that in some instances to be *average* may actually be a healthier situation for your schools. Thus, a district that is using *too much* of its current expenditures for administration, will find itself among the Quality Quarter or Top Tenth in this area. Properly balanced expenditures would probably be found in a district that fell in the average group in all items concerned with percentage of budget.)

Regional variations in teacher pay are large. In Region 6 (see map, below, to find your region), a school district that paid the national average for instructional salaries would find that it was paying considerably better than

IN WHAT REGION IS YOUR DISTRICT LOCATED?



REGION 1: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

REGION 2: New York, New Jersey, Pennsylvania.

REGION 3: Ohio, Indiana, Illinois, Michigan, Wisconsin.

REGION 4: Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas.

REGION 5: Delaware, Mary-

land, Dist. of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida.

REGION 6: Kentucky, Tennessee, Alabama, Mississippi.

REGION 7: Arkansas, Louisiana, Oklahoma, Texas.

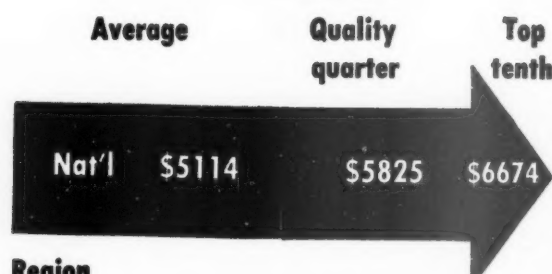
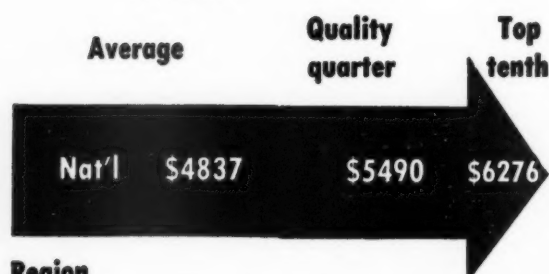
REGION 8: Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada.

REGION 9: Washington, Oregon, California, Alaska.

HOW WELL ARE WE PAYING OUR INSTRUCTIONAL STAFF?

1958-59

1959-60



Region

1	\$5,081	\$5,603	\$5,925
2	5,418	5,887	6,463
3	4,879	5,525	5,958
4	4,489	5,094	5,779
5	3,958	4,675	5,251
6	3,603	4,051	4,375
7	4,418	4,762	4,989
8	4,868	5,275	5,733
9	5,641	6,336	6,905

DISTRICT SIZE

1 (over 25,000)	\$5,115	\$5,782	\$6,223
2 (12,001-25,000)	5,071	5,745	6,337
3 (6,001-12,000)	5,399	5,997	6,525
4 (3,001-6,000)	5,150	5,641	6,306
5 (1,201-3,000)	4,652	5,213	5,837
6 (601-1,200)	4,440	5,128	5,553
7 (300-600)	4,459	4,941	5,558

Region

1	\$5,262	\$5,665	\$6,001
2	5,621	6,291	6,961
3	5,266	5,879	6,664
4	4,694	5,426	6,238
5	4,117	4,774	5,502
6	3,819	4,331	4,586
7	4,470	4,988	5,345
8	5,288	5,700	6,099
9	6,152	6,802	7,211

DISTRICT SIZE

1 (over 25,000)	\$5,392	\$6,156	\$6,643
2 (12,001-25,000)	5,459	6,087	6,977
3 (6,001-12,000)	5,726	6,306	6,752
4 (3,001-6,000)	5,335	6,043	6,736
5 (1,201-3,000)	5,073	5,722	6,134
6 (601-1,200)	4,758	5,347	5,762
7 (300-600)	4,675	5,274	5,871

most of its neighbors. In Region 2, on the other hand, the school district at the national average would find itself some \$500 below the average of its regional neighbors.

Variations within a region are also extremely important. Many teachers do not want to leave the *area* in which they are presently employed. But the teacher who wants to remain in Mississippi or New England still has quite a wide salary range from which to choose. So, while the national average is interesting and important, salary range comparisons within your own region are probably more critical for the retention of superior teachers.

Size affects salaries

Now let's inject another important element—district size. How does size affect the salaries of your instructional staff? As the tabulation (above) shows, district size is an extremely important factor. We find that the smaller the district, the lower the salaries it pays to its

teachers. While average districts with 3,000 or more students pay average salaries within a few hundred dollars of one another (and well above the national average), the three smaller groupings fall off sharply.

This pattern holds true for the Quality Quarter and Top Tenth, although the smallest districts (Size 7) in the Top Tenth rally somewhat and increase instructional salaries to a reasonable level. This latter fact is almost certainly a reflection of a few small, but extremely wealthy, districts that support education at an unusually high level.

It is interesting to note, too, that the actual range of salaries within each district size is really quite small. In general, the districts in the Top Tenth for each district size are paying about \$1,000 more than the average districts of that size. While this might appear to be a large jump in personal income, a teacher otherwise satisfied with his present district and its size might not find the raise attractive enough to cause him to make a radical change, especially

HOW MUCH OF CURRENT EXPENDITURES GOES FOR INSTRUCTIONAL SALARIES?

cei

1958-59				1959-60			
Average		Quality quarter	Top tenth	Average		Quality quarter	Top tenth
Nat'l 69.20%		74.24%	78.34%	Nat'l 69.18%		73.91%	78.42%
Region	%	%	%	Region	%	%	%
1	70.64	74.57	76.18	1	71.70	74.15	76.67
2	63.38	66.71	70.93	2	62.40	66.96	71.37
3	66.98	70.80	74.82	3	66.71	70.39	74.99
4	65.74	70.26	74.63	4	65.06	69.57	74.03
5	76.62	79.42	81.74	5	75.39	79.24	81.49
6	75.89	80.56	83.88	6	75.91	78.72	82.79
7	76.85	79.29	81.30	7	75.42	78.59	80.27
8	69.25	72.06	74.07	8	68.49	71.70	74.84
9	66.33	69.19	70.92	9	66.11	69.28	70.95
DISTRICT SIZE	%	%	%	DISTRICT SIZE	%	%	%
1 (over 25,000)	71.39	76.55	79.21	1 (over 25,000)	69.40	74.98	79.17
2 (12,001-25,000)	69.93	74.45	77.84	2 (12,001-25,000)	69.89	73.67	77.46
3 (6,001-12,000)	71.06	74.67	78.06	3 (6,001-12,000)	70.62	74.59	78.50
4 (3,001-6,000)	69.32	75.24	79.16	4 (3,001-6,000)	69.63	74.48	79.02
5 (1,201-3,000)	68.18	73.48	78.32	5 (1,201-3,000)	68.89	73.36	77.52
6 (601-1,200)	67.26	72.16	76.82	6 (601-1,200)	67.08	71.39	75.80
7 (300-600)	65.77	70.76	75.08	7 (300-600)	65.41	70.91	75.24

if living costs increase greatly. After all, he might get that much of a raise in his present district within a few years. So why move?

LET'S COMPARE SALARY PATTERNS

Now, after looking at these charts, suppose you discover that your district salaries are below average for your region and its size. What should you do about it?

The average instructional salary went from \$4,837 in 1958-59 to \$5,114 in 1959-60—a \$277 rise (see arrows, page 60). But the Quality Quarter districts jumped salaries at least \$335, and the Top Tenth districts raised their salaries by at least \$398. If you wanted to keep up with these districts, your salary increments should have been as high. If your district is interested in catching up, it must increase teacher pay even more.

If your district's salaries averaged \$5,490 in 1958-59, just enough to qualify for the national Quality Quarter, and you raised salaries by the national average—\$277—this year,

your district failed to remain a part of the Quality Quarter! You didn't raise enough. It isn't just a question of keeping up with the Joneses. If your district teaching salaries aren't high enough to retain and recruit competent, well-trained people, your school's educational program will suffer a deterioration in quality.

In general, the rich got richer in instructional salaries. Average salaries rose 5.7% during the year but Quality Quarter salaries jumped 6.1% and Top Tenth districts raised their salary level by 6.3%. Regionally and by district size—with a few exceptions—this same pattern was borne out (see tabulations).

LET'S COMPARE PERCENTAGE OF BUDGET

The purpose of this section is to see whether or not your salary expenditure pattern is out of whack compared to expenditures for other budget items. An imbalanced pattern here could mean poor education.

It is perfectly conceivable that your district

HOW TO COMPUTE PER PUPIL EXPENDITURES

It takes more money to educate a high school pupil than it does to educate a student in elementary school, according to Dr. Orlando F. Furno, of the U. S. Office of Education. And, because of the effects of sparsity, small schools have to spend more for the same educational services than large schools. Therefore, CEI's per pupil cost figures are based on "expenditure pupil units," rather than actual number of students.

Here's how expenditure pupil units were computed by Dr. Furno: Schools with an average daily attendance of less than 317 on the elementary level or 695 on the secondary level received a sparsity correction (see below). Next, because for every dollar spent on an elementary pupil, \$1.30 must be spent to educate a secondary student, secondary ADA was multiplied by 1.3 and then added to the elementary ADA. The resulting figure is called "expenditure pupil units."

To find out your district's per pupil costs, in terms of the figures given in the CEI, multiply all your elementary school pupils by one, all your high school pupils by 1.3. The total obtained is your number of expenditure pupil units.

Here's an example: District A has 2,000 elementary school pupils, no students in high school. District B has 2,000 high school students, none in elementary schools. District C has 1,000 elementary pupils and 1,000 high school students. If each district's net current expenditures total \$500,000, District A's per pupil expenditures would be \$250, (\$500,000 divided by 2,000 students multiplied by one). District B's per pupil expenditures would be slightly more than \$192, (\$500,000 divided by the result of 2,000 multiplied by 1.3). District C's per pupil expenditures would be about \$217, (\$500,000 divided by the result of the total of 1,000 and 1,000 multiplied by 1.3).

In this case District A is spending more money per pupil than Districts B or C, despite the fact that all are the same size and are spending the same total amount.

With these weighted per pupil costs, it is possible for a district to compare itself with any other district in the nation, no matter what its pupil make-up.

If your district has less than 317 pupils in ADA in elementary schools or less than 695 pupils in ADA in secondary schools, a sparsity correction must be made to get your district's expenditure pupil units. If you will send a postcard to School Management, giving your school's elementary ADA and secondary ADA (separately), SM will calculate your expenditure pupil units for you.

is below the national average in instructional salaries but is not unwisely unbalancing its expenditure pattern in terms of the percentage of your total budget allocated for this item. You are not robbing Peter to pay Paul. There is always the hope that even though your district is spending less than it should for teachers' salaries, you may very well be retaining some quality teachers by not cutting off adequate teaching supplies and overwhelming them with excessive pupil loads and teaching assignments.

Over these two years, there has been very little shift in the proportion of the total budget spent on instructional salaries. In 1958-59, the national average was 69.20%. In 1959-60, it was 69.18% (see page 61 for tabulations).

The proportion of the budget being spent on instructional salaries varies from region to region. In regions with low per pupil expenditures (Regions 5, 6, and 7, for example), the percentage is high. Here's how some of these districts do it. They unbalance their expenditure pattern by devoting too much of their budget for salaries. They may cut down on teaching materials and load their teachers with too many pupils. Or this is often done at the expense of other services, such as administration. The result is an unbalanced expending pattern and a reduction in quality education.

Unfortunately for the small districts, even this luxury is not possible. They cannot as easily skimp in other areas because certain costs (they must have an administrator, no matter how few pupils are involved) are spread over too few pupils. They cannot allocate a substantially larger proportion of their budgets to instructional salaries. As a result, they are unable to really compete with the larger districts in terms of salary. Small districts, it is obvious, are expensive to operate in terms of the results of their expenditures.

HOW MUCH ARE WE SPENDING PER PUPIL ON INSTRUCTION?

This whole question of teacher pay can be attacked from yet another angle. Granted that a smaller district has less money with which to work—and is putting less of its available funds into instructional salaries—how it is doing on a *per pupil* basis?

As the arrow shows (see page 122), on the average \$202 per pupil is being spent on instructional salaries this year. On a regional basis, the pattern we have come to expect asserts itself again. Region 6 lags behind the rest of the nation, with Region 5 not much ahead. Regions 2 and 9 are the pace setters.

How about district size? The largest districts are *not* the biggest spenders per pupil. The

continued on page 122

What teachers say about better use of their time

How do competent teachers feel about J. Lloyd Trump's suggestions on "better staff utilization"? Here, in a candid interview, the members of "top management" of the Department of Classroom Teachers (NEA) express their opinions about teachers' aides, large-group instruction, and salary differentials.

■ ■ ■ One of the most controversial items in Dr. J. Lloyd Trump's "Images of the Future," (see "Questions and answers about teacher utilization," SM, April, '60) can be summed up in this statement:

"The high school of the future will have a whole raft of new titles. Professional teachers will be broken into two groups: those who are teacher specialists and those who are general teachers. Also on the faculty will be instruction assistants, clerks, general aides, community consultants and staff specialists . . ."

To this new organization of teaching skills, Trump adds two more provisos:

1. Teacher specialists will usually handle large-group instruction, much in the fashion of college lecturers. General teachers will handle small groups and individual students.
2. There will be a salary differential, with the specialists earning more than the generalists.

What teachers say

This is strong medicine, even when its source is a respected name in educational circles. Some teachers have reacted violently to what they feel is a threat to good educational doctrine. Others agree with the basic idea but would change some of the specific elements.

One thing is certain, however: Trump's suggestions have had a major impact on educational thinking. Reaction is only beginning to be felt. The issues he raises can no longer be swept under the rug. In the months that follow, the lines of argument will be more sharply drawn.

Certainly teachers themselves will be major participants in the debate. It was with this in mind that SCHOOL MANAGEMENT conducted the following tape-recorded interview with two teachers who, perhaps

more than any others in their profession, can claim to speak for their colleagues. Richard Batchelder, a social studies teacher in Newton, Mass., is president of the influential Department of Classroom Teachers, a division of the NEA. Mrs. Buena Stolberg is president-elect of the same group, and teaches in the Webster Groves, Mo. public schools. Both teachers graciously submitted to this impromptu interview without preliminary study or briefing.

The interview is not offered as their reactions to Dr. Trump's whole program. Instead, we have focused on a few elements of particular concern to classroom teachers, in an effort to clarify some of the possible areas of agreement and disagreement. *turn page*

"We've all talked too long about magic formulas of class size. I don't think there is a magic number. I believe it should vary."

BATCHELDER





"The typical study hall, for many of our students, is a waste of time—for the student and for the teacher who is trapped into having to control it."

BATCHELDER

Q Lloyd Trump has said *"the high school of the future will be organized around three kinds of activities—large-group instruction, individual study and small-group instruction."* As teachers, how do you feel about this concept?

BATCHELDER: Education has always been based around these three. We've always had instruction on a large scale for some special purposes. It has been limited in the past but I think we'll see more of it in the future. But this use of different size groups isn't new. Look in on almost any classroom today, and you'll find that the teacher will use the entire class for some activities, and then he'll turn right around and use two or three students for other purposes. So, even within the self-contained classroom, these three kinds of groupings are used.

STOLBERG: I agree. Teachers have brought students together in auditoriums for purposes of instruction, not just for entertainment, for many, many years. We've been hampered a good deal by school facilities and by schools built in such a way that you almost can't do this very well. It's usually an awful lot of trouble. But it's done.

Q. In other words, you two don't feel that teachers will be hostile to the concept of students spending 40% of their time in large-group instruction, as Trump proposes?

BATCHELDER: Now you're getting more specific. Now you're saying, "What percent of the time will go to large-group instruction?" I can't say that 40% is the magic figure. I believe that we've all talked too long about magic formulas of class size. I don't think there is a magic number for class size—I believe it should vary. The percentage of time spent in large-group instruction should also be flexible. It should

vary with the subject, grade level, and ability level of the students.

STOLBERG: It would be much more difficult to use the large-group type of instruction with children at the lower end of the ability scale. They almost have to be dealt with in small groups.

Q What about Trump's suggestion that about 40% of the pupil's time, or some appreciable amount of it, should be spent in a library, or language laboratories, or doing independent study?

BATCHELDER: Again, I think we are trying to make a formula to fit all kids. The 40% may be fine for some children and for some purposes. But if there is anything in the concept of better utilization of staff, it should provide flexibility of staff, flexibility of programming. Let's not go from one system, which has been too rigid, and adopt a more highly organized inflexible system. This isn't progress. Incidentally, I don't think Trump is proposing such rigidity.

STOLBERG: I would agree that this can apply to an academically talented group. But I can't see it for youngsters who are slow learners or retarded. It's the same feeling I have about the large-group situation.

BATCHELDER: In all fairness though, we did have some students with limited abilities in large-group lectures at Newton high school, and I think that the results were satisfactory.

Q. What about this idea of the small-group discussion? Trump proposes as many as 100 children under a single teacher in the large group, and then breaks them down to 10 or 12 for discussion situations. As a matter of fact, he makes a categorical statement: He says 30 to

35 is virtually an impossible group for any intelligent discussion.

BATCHELDER: I think that it is a good deal easier for the school to achieve the 100-student grouping than the small one. I've used groups of 180 many times and found this satisfactory. It's more difficult for the school to get groups of eight or 10 together. It's difficult to find time and space for the small-group discussion. On the other hand, if we're going to have discussions, we do need smaller groups. I'd agree with that.

Q. Trump's over-all objective, of course, in this structuring, is to get better utilization of staff. Do you feel that this type of structure would, in the best sense of the word, get better utilization of staff?

BATCHELDER: If we have specialization to the degree that the teacher has only a small role to play in the process of each child's education, I'm afraid that it would create more difficulties than it would solve. If I were to give one out of every four periods for large-group instruction for my psychology class—25% of my time to large-group instruction—then I would want to work with those same kids in small groups so that I could participate in both phases—presentation and discussion. If we specialize this too much, I'm afraid that the teacher will lose touch.

Q. Teachers who are going to speak to large groups will need adequate time to prepare. This might preclude doing much in the way of leading discussions.

BATCHELDER: This would be very unfortunate. This is what happens in many colleges. Many students say, at the college level, that one of the great tragedies is that they only see the great men from afar. They have to wait until they are in the graduate school before they ever get close enough to get a person-to-person impact.

STOLBERG: I'd like to go back to the idea of low ability youngsters spending 40% of their time in the library, or with filmstrips, or in a language laboratory. I have the feeling, after quite a lot of experience with these youngsters, that they can't operate on their own that much. They can for a short period of time and really get a lot out of it. But their attention span is very short. I find that within an hour I often have to change activities at least three times. Twenty minutes is often the extent of their attention span. We also have to face the fact that there are some children who simply don't want to learn.

Q. Trump says these students are no better off in a typical study hall situation where they don't have tools with which to work. Would you agree to that?

BATCHELDER: Yes. The typical study hall, for many of our students, is a waste of time—for the student and for the teacher who is trapped into having to control it.

Q Each of you has indicated that you do not object to large-group teaching. How do you feel about paying the teacher who handles the lecture more than other teachers?

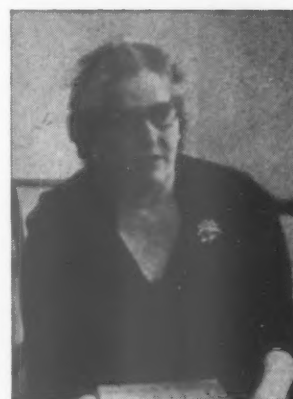
STOLBERG: If that is what Dr. Trump suggests, I can't go along with it completely. We aim for a quality teacher in every classroom. If a person isn't fully qualified, then that person shouldn't be teaching at all.

Q. Trump differentiates between teacher specialists, with an average salary of \$8,000 and general teachers with an average salary of about \$5,500. You don't go along with that differentiation?

BATCHELDER: We've been doing this sort of thing right along, any-

STOLBERG

"It seems to me that when a quality teacher is given a more sharply defined role—like that of handling large-group lectures—proper adjustment should be made in teaching load rather than salary."





"We aim for a quality teacher in every classroom. If a person isn't fully qualified, then that person shouldn't be teaching at all."

STOLBERG

way. For example, we've taken the elementary school principal and given him or her more money than the elementary teacher. The principal has a different role to play and we assume that the role has higher qualifications, requires more years of experience, and commands more money.

Q. Then you're not hostile to this concept, Mr. Batchelder?

BATCHELDER: I merely say we've been doing this anyway. I find it a lot more desirable than pulling a truly great teacher out of the classroom in order to use him as a poor administrator. That isn't very good economy.

STOLBERG: It seems to me that when a quality teacher is given a more sharply defined role—like that of handling large-group lectures—proper adjustment should be made in teaching load rather than salary. On the other hand, if you are getting into roles where professional specifications can be spelled out, then maybe you would pay such people a little more.

BATCHELDER: One of the difficulties here is that we may be trying to transfer a *quantitative* evaluation to

the teaching job. Are we saying that because a lecturer handles more children in class, he should get more money? Would this be fair to the highly articulate and excellent teacher who is handling only eight pupils in discussion groups? Since you want a position from me, I'll state it this way: If you'll assume similar experience and similar training, any difference in pay must be based on a real difference in *role*. I would want the role defined and agreed upon by the school system. Then we could pay extra for the special role.

Q Both of you have assumed that a large-group lecturer would be a qualified teacher—a certificated person. Is it really necessary for a lecturer to have a teaching certificate? For example, could you have a great musician like Heifetz conduct a lecture session?

BATCHELDER: Are you suggesting that the great artist would *teach* music? If so, I can only say that the great artist may be a horrible teacher. But even if he were good, I would not want him to play that role. It takes more than being a lecturer to teach.

Q. Isn't it possible that a man might be a good teacher without training in education?

BATCHELDER: I think it might be possible, on TV, to use a highly articulate, polished performer to express the words of an expert in history. TV is an impersonal situation. But I doubt if it would work with the personal relationship of teaching. Don't forget, I premised my remarks earlier by saying that I didn't think a large-group lecturer should be divorced from the small-group discussions. I wouldn't want to have the expert you describe handle the small group. I don't think he has the qualifications. He doesn't know the psychology of learning.

Q. Would you insist on certification for a person who had native ability to teach, but no teacher's certificate?

BATCHELDER: Yes. The teaching profession *must* set and must continue to increase its standards. There are exceptional, outstanding people who might be very good teachers and who could do a notable service. But lowering certification standards is no solution to the teacher shortage.

Q. Let's go back to this matter of salaries. How do you feel about men teachers being paid more money than women teachers?

BATCHELDER: It's preposterous. It violates all the basic laws of economics. If a man is going to compete with a woman for a job, he must compete with her as an equal. If the man gives her the advantage of being able to sell her services cheaper than his, he is not going to be able to compete with her in the marketplace. That's basic economics. I don't know of a single school system in the United States that has a sex differential in salary of any significant amount. It is a fraud to propose that it will attract more men to the teaching profession.

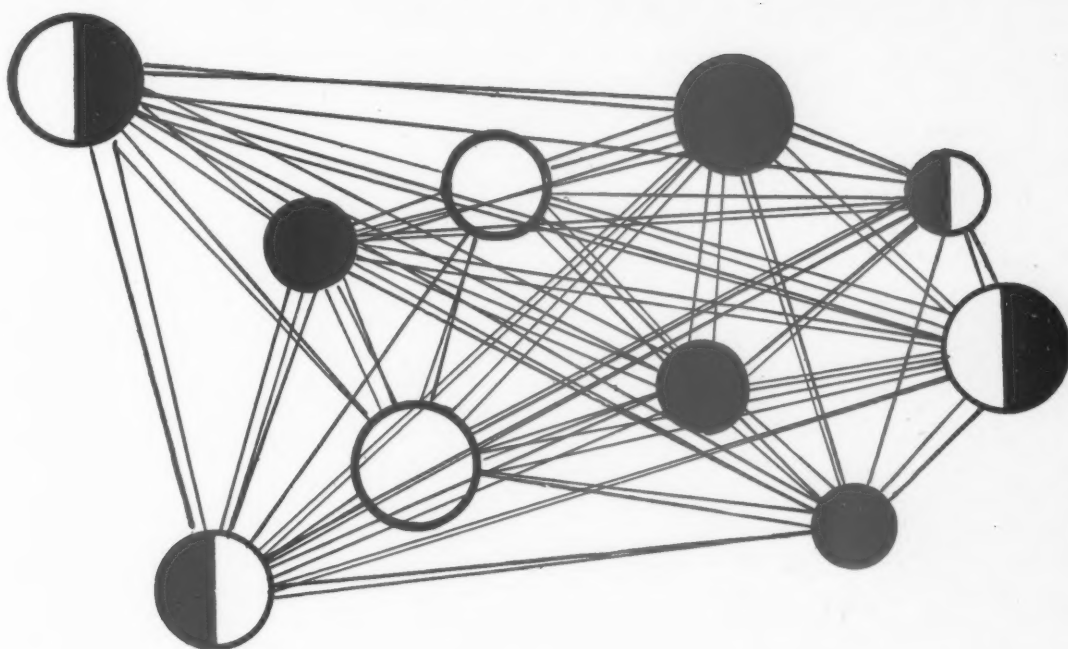
Q. How about using the device of "family allotments"? This is recognized by the Internal Revenue Service as a legitimate reason for a deduction.

BATCHELDER: I answered that before. I said the teacher should be paid according to his role—not his fertility rate.

STOLBERG: I'd like to add this: We hire persons to do a job. They're qualified or they're not qualified. That's the only consideration.

BATCHELDER: I'm a social studies teacher, so perhaps that's why I'm concerned with your suggestion. Marxian doctrine tells us that we should pay each according to his needs. Our philosophy is that we pay a person according to the job he does. Whether a person has one child or five, whether a person is supporting others in his family, is crucial as far as that individual is concerned. But it's not a reason to pay him an additional sum of money.

Q. Mr. Batchelder, doesn't your own school system, Newton, Mass.,
continued on page 130



How to make school decisions:

AN OUTSIDER'S VIEW

Every school decision is a choice among interacting alternatives. Your problem: Which course best promotes your district's educational goals? Here is a way to evaluate alternatives before making up your mind.

By JOSEPH A. KERSHAW and ROLAND N. McKEAN,
Economics Division, The Rand Corp., Santa Monica, Cal.

Editor's note: This article is a rather "offbeat" feature for *School Management*. It is not a case history. Neither is it a factual report of how one district solved a particular school problem in a way that other districts can follow. Yet it does point the way to the practical solution of one problem that most administrators face day after day in the course of the school year—that of decision making.

The authors, members of the Economics Division of The Rand Corp., are not professional educators. But they are experts in systems analysis. As a result, their view of the decision-making function is not hedged about with

the taboos and subjective considerations that plague most school administrators. They contend that the solutions to school problems hinge upon reducing their elements to terms of educational "input" and "output": a new approach to defining school resources and identifying the quality of instruction which results.

In the first half of this article—a by-product of their study "Systems Analysis and Education," financed by the Ford Foundation—they present their view of how decision making should be approached. In the second half, they present an example which illustrates this approach.

■ ■ ■ Suppose that your district decides, for one reason or another, to improve pupil performance in mathematics. This improvement will require more dollars for your math program. As a result, you are immediately faced with an important decision: to spend new money or to make funds available by taking them away from something else in your system. Next, you must choose the method, or methods, you'll employ to do the job.

This will involve a second decision based on an examination of all the ways of improving math per-

formance. For example, should you:

1. Obtain better teachers (which may involve higher pay)?
2. Install television as a means of using your best teachers more effectively?
3. Hire teacher aides to release teachers from non-teaching chores?
4. Change the curriculum to give added emphasis to math?
5. Reduce pupil-teacher ratios in math classes?
6. Supply better classroom equipment?

To make an intelligent choice among these possibilities, you must have an idea of *how much each technique will cost* and how much each will accomplish—what the cost and output of each technique will be. In addition, you must have some understanding of the good and bad *indirect* effects of each suggested alternative on other parts of your school system. From these considerations you can determine which course of action provides the most of what you want for a given cost.

Keeping the dollar in focus

Well-meaning people often assert that cost is not important—that what does count is finding ways to improve education. Once you find these, they say, communities will somehow pay the necessary costs. This is simply untrue.

Without question, we could improve our high school education substantially by having one teacher for each four or five students. This would be theoretically possible; it would “simply” require increasing the high school faculty about five-fold and setting starting salaries at around \$15,000 or so (to attract that many teachers). No one suggests this, of course—precisely because society is unwilling to pay this price.

So there is nothing wrong with affixing a dollar sign to your alternatives. All you are doing is seeking policies that appear to yield the greatest output from your anticipated budgets. And the way to hit upon such policies—even if precise measurements never become avail-

able—is systematically to consider *alternative* ways to use district resources.

Problems of choice

Compare your situation with that of a business executive. Business management has multiple aims just as school management has, but the dominant pressure on business management is to increase profits. The selection of a firm's actions is still far from simple, but the *criterion* of proper policy is straightforward compared to yours.

Your course is rarely so clear. The educational objectives of parents, taxpayers and educators are multiple—not focused neatly on a single, well-defined aim. And measuring progress toward these objectives is typically difficult and in some instances impossible. Yet it is possible for you to think systematically about the options open to you, provided you keep these factors in mind:

■ **Every decision is a choice among alternatives.** When a school board decides to add a psychologist, it is by that act deciding not to do many other things that cost the same. The money earmarked for the psychologist's salary could just as well be spent repairing the gymnasium, buying typewriters, raising custodial salaries or replacing worn-out band instruments. It may sometimes happen that alternative uses for the same available money are close competitors—buying a new school bus vs. reconditioning an old one; often they will be quite unrelated. But the point is, whenever a positive decision is made, a decision *not* to do an almost infinite number of other things is made with it.

■ **Every alternative should be evaluated.** It is not enough to ask, “Is this proposal a good one?” Instead, your question should be, “Is this proposal better than all others that might be equally costly in resources?” Every decision to spend money, or to use existing resources in a different way, should face up to the question of whether the proposal advances the system toward its goals more than other alternatives would.

■ **Decision making has side effects.** In something as complex as a school

system, changing one of its elements is likely to affect the cost of performance of all the others. For example, a decision about building design would influence the costs and the benefits resulting from the introduction of television into the educational program. You must be aware of these indirect effects.

But what if you cannot measure how much each alternative will produce? (And at present this is rarely possible.) You can still make personal estimates of *output* under alternative policies whenever you make a choice. Too often this explicit consideration of alternatives is bypassed in favor of concluding somewhat mystically that the school “needs” (in an absolute sense) a particular policy or piece of equipment. The need is there, of course, but so are many, many others.

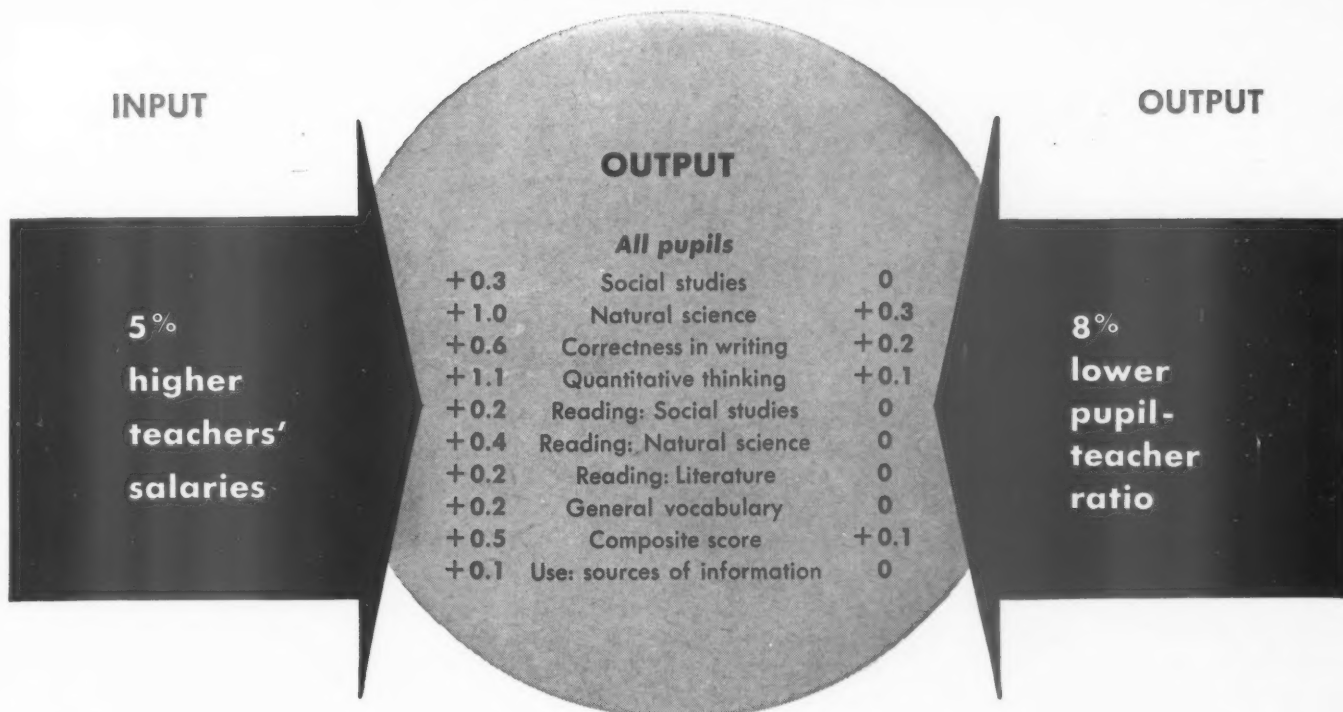
Alternative packages

In order to consider alternatives systematically, it is helpful to think in terms of those that cost approximately the same. A 12-room house produces more comfort and costs more money than a six-room house. But these facts alone do not help much in choosing between them. The question that must first be answered is, “What alternative *packages* of things could I buy with the same resources required for the 12-room house, and what value or ‘output’ would each of the packages probably yield to me?”

In our earlier example, if using teacher aides to get average math achievement raised by a designated amount costs \$13,000, and reducing pupil-teacher ratios to obtain the same results costs \$9,000, it is wasteful to use teacher aides. The other \$4,000 has other productive uses to which it can be put. We use cost as part of our criterion not to pinch pennies or to find ways to cut the total budget, but because this is the way to judge efficiency. It is always efficient to do a specified job with the lowest expenditure of resources, or to get the most output from them.

In examining cost (or output, for that matter), the *extra* or “incremental” amount resulting from each policy alternative should be identified. It is tempting to allocate a slice of joint costs—such as adminis-

HOW INPUT AFFECTS OUTPUT



NOTE: The Iowa Tests are used here merely as an example. The scores shown are hypothetical—after allowing for effect of other factors—but they are drawn up so as to be consistent with certain plausible hypotheses—e.g., that higher teacher salaries would improve scores in mathematics and science particularly, because they would alleviate the “shortage” that affects those subjects especially. These

numbers represent changes in raw scores—not in scores that have been converted into percentiles or other relatives.

Separate analyses for different ability groups (pupils with IQ's above 120; those with IQ's from 100 to 120; those with IQ's from 75 to 100) could show impacts on pupils in those groups.

trative or research expense—to each course of action even if those expenses would not actually be affected. What should be estimated, however, are the truly incremental effects of each alternative.

What are your goals?

Suppose we look briefly at the measurement of output under alternative policies. The difficulties here, of course, are enormous, but let's focus our attention for a moment on output in terms of only one of the administrator's aims—instruction of pupils in the basic subjects. This is more difficult than was implied in our example about improving performance in mathematics. To elaborate just a little: Slow and bright students will be differently affected by many innovations—which students do you want to improve? And suppose you can improve the bright youngsters in math by letting their history slide—is this good or bad? Or again, how much improvement do you

want? Presumably if a school did away with everything except math, its graduates would be outstanding in math. If this is absurd, how far does one go in that direction?

A partial measure of output

Measuring the effects of alternative policies on test scores would give data about one major dimension of educational output. While they would not make possible *definitive* conclusions about a district's practices, they would help an administrator make his choices by showing him *part* of the effects of various policies. And, if he wished to “buy” greater scholastic achievement, he would know (approximately) what steps to take to get a designated improvement.

Scores on batteries of standardized achievement tests have shortcomings. Among other things, they cannot and do not cover *all* aspects of learning that are worthwhile in these subject areas. Different batteries of tests, developed by differ-

ent organizations, differ in their coverage, and are subject to different criticisms. But most persons would agree that a comprehensive battery, like the Iowa test, gives a fairly good indication of achievement.

A student's score will, of course, depend upon his frame of mind, his motivation, his health, and many other chance factors—not merely on the extent of his learning. The degree and period of retention of the information and ideas learned will vary, too. This uncertainty about the accuracy of particular scores makes it hazardous to take any single score too seriously in counseling an individual student. It does not, however, make impossible an analysis based on a group's scores where chance factors are cancelled out in the averaging process.

In order for these scores to serve as a partial measure of output, we must try to determine how varying the school characteristics affects them. We must learn the relation-

continued on page 118

What are you doing about

The secret ingredient of ETV isn't money—it's effort. Here's how three different districts worked to create outstanding instructional TV projects by pooling the latent potential of school and community.

■ ■ ■ If you're a typical administrator in an average-sized school district, you probably hold two strong opinions about educational television: "It could be a marvelous teaching tool" and "we couldn't possibly afford it." But you would be only half right. For, while ETV is an amazingly effective instructional aid, it needn't be as costly as you think.

The key isn't money alone, though, of course, you must have some funds available—from your schools, your community, a foundation or industry. (Actually, your expenditure can be as modest as buying a few television receivers.) The critical factor, it seems, is effort. Most local school TV projects have succeeded in proportion to the effort exerted in two areas:

1. The care with which realistic goals are set for the infant program.
2. The thoroughness with which every conceivable school and community resource is marshalled behind the project.

Put another way, your problem is how you can best incorporate television into your instructional program. The solution you come up with depends upon the role you assign to television teaching:

- Will it enable you to widen your curriculum offerings?
- Is it meant to provide an enrichment program?
- Will it serve both school and community?

To demonstrate how television can be adapted to suit a variety of purposes—and the different approaches that can be taken to make its use possible—SCHOOL MANAGEMENT presents the following three

capsule reports of district programs in action. While the general goal of all the districts involved was to improve educational quality, each of the districts adopted its own, unique path.

HOW MASON CITY, IOWA, USES ETV

Reported by Glen E. Haydon and John R. Catsis, KGLO-TV

■ For the past half-year, a course in elementary Spanish has been taught for a half-hour each day to 3,024 sixth-graders in 126 schools in a seven-county area of north-central Iowa. The program—broadcast over KGLO-TV, Mason City, Iowa—can be seen daily at 9:00 a.m. and runs for 38 straight weeks.

In addition to the school children who view the program, there are 958 adults registered for the course. Each pays a \$6 fee for the teaching aids and course outline provided.

The idea for the program occurred first to Superintendent Perly O. Brunsvold of Mason City. Sixteen weeks of remedial reading had been carried over the local television station the previous year. Because of the success of the reading course, Brunsvold thought a language program might be equally successful.

A cooperative venture

Quick agreement to go ahead with the proposal was reached among seven county school boards.

Salvador Siqueiros, a highly personable, talented teacher from El Paso, Tex., was hired to conduct the course.

Time to prepare the program was short. It was May when the idea was conceived, June when Siqueiros was hired and July before he arrived in Mason City. But the show went on the air as scheduled with the start of school in September. Exact cost of the program won't be determined until the end of its first year, but the estimate is \$24,600. The biggest expense has been the purchase of television time, \$13,000 for the year. The station makes no profit from the program. It charges only for the equipment and added personnel required to put the show on the air.

At the outset, the station offered up to one hour of air time for the program. As a result, the schoolmen involved have approved an expanded program for the next school year. It is to run 45 minutes instead of the present half-hour and part of it will be geared to second-year stu-

educational TV?

dents—those presently enrolled who successfully complete this year's program.

Reaction to the program

According to M. C. Martin, Cerro Gordo (Mason City) county superintendent of schools, the program has proved most satisfactory. Douglas Sherwin, program director of KGLO-TV thinks that, in addition, the program has been good for the station. First because it has demonstrated a pulling power equal to that of some of the station's top viewing fare; second because it is an excellent public service presentation.

One of the most important factors in the acceptance of the program has been the kind of teaching provided by Siqueiros.

"Make it fun for the student to learn," he says, "and half the battle is won. Most teachers say, 'Now we are going to study Spanish.' My approach is different. We play games and use Spanish words to describe what we're doing. I'm not teaching



Salvador Siqueiros conducts his Spanish lessons in a Mexican setting.

them as such. But they are learning while we have fun together."

But there's no "fooling around" on the Spanish show, though it does have some gimmicks to sustain interest. Siqueiros begins each session by opening the door to his hacienda and stepping out into a little Mexican courtyard. In the middle, is a well. He sometimes lowers a bucket into it and pulls out an object that helps clarify an idea he's trying to get across to his audience.

Instruction is done in segments. One week he may talk about the dinner hour as observed in a Spanish village. He will display a plate, pronounce the Spanish word for plate, and then do the same with a cup, saucer, knife, etc. It's a picture-word association—the direct method, as Siqueiros likes to call it.

He imagines that all 3,982 stu-

dents are in the TV studio with him during a session. And the students, through Siqueiros' dialogue of recognition and praise, get that impression, too.

Of course, they have no opportunity to ask questions during class. They must wait until Siqueiros visits each of the 126 schools personally. It takes about two months to make the complete round, but he says this is not much of a problem.

"Often the teacher in each school, even though she is learning Spanish for the first time along with the students, can answer most questions."

On his visits Siqueiros stays in each classroom only 10 or 15 minutes. But even in that brief time, the students are able to quickly review, ask questions, demonstrate their speaking skills and learn new material.

Tests are conducted over televi-

The daily elementary Spanish course on TV reaches 126 schools.



sion, with teachers grading papers according to a master key sent to them by Siqueiros. However, the decision of whether to give a student an A or B is up to the individual teacher. The "curve" varies with each school.

The individual classroom teacher has one more job. She prepares critiques of Siqueiros' work on television, and sends them in. From these, he can evaluate how well he is performing on camera.

Most of the local teachers, who do not know any Spanish them-

selves, learn right along with the students. Some of them plan to take Spanish courses this summer in colleges and universities.

Superintendent Martin says he'd like to run some control groups to check on progress. This is important in setting up the criteria necessary for a Ford Foundation or U. S. Office of Education grant. The seven county school heads are hoping for some money with which to purchase some kind of video recording device. Then Siqueiros' original programs could be rebroadcast, while

he devoted more time to teaching the advanced classes and to making more frequent personal visits.

What next?

Martin thinks the future looks good. He predicts that an educational TV network will be set up in Iowa before long.

Program Director Sherwin is sure this type of program is just scratching the surface of educational TV.

Perhaps it is, with school districts everywhere faced with pressing teacher shortages.

CORNING, N. Y., REACHES THE PARENTS

■ Parents of school-age children in the Corning, N. Y., City School District can observe up to three hours of instructional television daily in their own homes. While these programs are aimed at supplementing classroom instruction, administrators have found that parents also watch the telecasts to better acquaint themselves with their children's learning experiences in school.

In addition to the value that accrues from parents' viewing of television teaching, Corning officials have been able to keep large segments of the community informed about their schools through evening programs specifically planned for adults.

How have they developed this communications "pipeline" into the district's homes and schools? The answer lies partly in the topography of the area.

Private line ETV

The Corning District is surrounded by mountains which obstruct the air-borne reception of television programs. An enterprising company set up its own television cable system to pick up programs from commercial stations via a master antenna located atop one of the surrounding peaks. These programs are "piped" into subscribers' homes, by means of a cable, for a small monthly fee. This cable goes into 3,200 homes and 14 of the district's schools.

Superintendent Grant Venn and district officials saw in the cable arrangement an opportunity to improve the effectiveness of their educational program and decided to give their idea a try. One of the district's principals, Halas L. Jackim, with a strong background in ETV administration was asked to plan and direct the project as a full-time assignment. A highly-qualified electronics engineer was engaged to serve as a part-time technical consultant.

Then the district entered into an agreement with the local TV cable company for transmission of programs originating from a district-owned studio. This system embodies many of the best features of both closed- and open-circuit television. As a closed-circuit system, it is not troubled with FCC regulations pertaining to schedules, licensed personnel and a station permit. It also enjoys the technical capability of being able to present more than one program at the same time. But in addition to these advantages, enjoyed by most closed circuit operations, this system can also bring educational programs into the homes of the community, as well as into the schools.

Financial support was sought from numerous sources including the state and federal governments and various foundations. Grants totaling \$87,500—from the Corning Glass

Works Foundation and the Ford Foundation—made it possible to establish and operate the entire system for one year at no cost to the taxpayers.

A PR and administrative tool

The fact that the studio teachers are selected on the basis of their teaching ability and are relieved from all other responsibilities helps to guarantee quality teaching via the screen. Thus, Corning has been able to put its best teaching talent on public display. Good teaching methods and materials are also inevitably demonstrated to parents and classroom teachers through these telecasts. In addition to having positive professional in-service training effects, they are a tremendous asset to the community relations program for they can bring the classroom into every citizen's home at a flick of a switch.

Panel presentations, interviews, dramatizations, student participation, photographs, films, tape recordings, charts, and even puppets all help to put school issues across via TV. The fact that the public can meet the superintendent, board members, and other school personnel as human beings in the intimacy of televised "fireside chats" helps instill confidence in the school system.

This television system serves still another administrative function.

FIRESIDE CHAT



Corning Superintendent Venn discusses school problems with community.

IN-SERVICE TRAINING



Teachers learn how to use a new report card during televised training session.

CLASSROOM SESSION



Parent "sitting in" on class instruction gets better idea of school program.

With it, simultaneous presentations of administrative information can be given to all of the faculties scattered throughout the 300-square-mile district. Such direct, convenient communication would have been impossible without the TV cable.

Corning administrators, employing this and the many other unique

powers of television—its ability to enlarge printed matter, to convey a feeling of intimacy or to create desired moods with props and music—find that its potential is not limited to use in the classroom. They are convinced that it can be extended to serve as an invaluable administrative tool.

100 VERMONT DISTRICTS WORK TOGETHER

■ A television program centered in Burlington, Vt., is being used by 100 school districts in the state. Begun as an experimental adjunct to in-school instruction in 1956, the ETV project is now broadcast for a half-hour daily over commercial station WCAX-TV at 9:30 a.m. Instruction is given in music, science, literature, art, physical education, health and safety for elementary school pupils.

Designed as an enrichment program, it is meant to supplement classroom instruction, not replace it. But, with the help of educational television, a single teacher can now provide such enrichment to more than 16,000 students. More important, it is now possible for school districts in remote areas, far from larger communities, to receive specialized instruction that was unavailable before.

How Burlington made a start

The first offering, four years ago, was a weekly half-hour program of films devoted to music appreciation, under the auspices of the Vermont Symphony Orchestra Assoc. By 1957, some 60 elementary schools were participating in the project and the enthusiasm of teachers, administrators and pupils for the program indicated that its offerings could be successfully expanded.

A 15-week series of programs for elementary school children was begun with volunteer instructors, from in and outside the schools, conducting the sessions. Music was again offered on Mondays, under the auspices of the Vermont Symphony Orchestra, with Dr. Alan Carter providing the instruction. Science was

presented on Tuesdays by Dr. Edward Stefaniak, Johnson Teachers College. Mrs. Jane Hobson, Vermont Free Library Commission, handled the Wednesday literature sessions. The instructor for art on Thursdays was Albert Trono of Burlington High School. And Raymond Magwire, from the state department of education, presented the physical education, health and safety segment of the program on Fridays.

To enable classroom teachers to make the best possible use of the televised sessions, teacher guides were distributed in advance of the broadcasts. The guides contained brief lesson plans of the material to be covered in each session and the elementary grades for which the material was designed. (See box, page 74, for sample lesson plans.)

Instructors discovered that they were able to provide more effective instruction on television than they could in the classroom. Science demonstrations, for example, could be made clearly visible to every viewer by bringing the camera in close while the instructor performed an experiment—an impossibility in the classroom lab. Physical education lessons in ball-handling, rope-jumping, coordination of all kinds, came across far more simply and clearly than they could when handled before large groups in a gym.

The program today

The current 10-week "TV School" beamed to the rest of the state from Burlington remains essentially the same today, except that the literature session has been replaced by one on social studies. Ac-

cording to William T. Logan, Burlington superintendent, the project will probably remain a permanent feature of school instruction in Vermont. If anything, it should be the nucleus of the state's contribution to a proposed New England educational television network, generally predicted within the next five to 10 years.

What was the key to Burlington's success with ETV? The fact that various elements within the community were willing to undertake a cooperative experimental effort to improve instruction. WCAX-TV agreed to provide the necessary production personnel, facilities and air time — without cost — as a public service. Volunteer instructors,

drawn from schools, colleges and associations, were willing to help with the presentation of program material. And Superintendent Logan and the Burlington schools assumed much of the burden of planning, coordination and preparation of materials to be used.

The problem of funds

Until now, financial support for the program has been meager. When it became necessary to find some way to defray the cost of preparing and printing the television lesson plan guides, participating schools were charged 50¢ apiece for them. Some of this money has been used to compensate instructors—in a small way—and to pay for necessary travel and clerical expenses. The acquisition of television receivers remains the responsibility of the interested schools. Many have borrowed sets from people within their immediate area; enthusiastic PTA groups in other schools have donated them outright.

The program has now advanced to such a point, however, that some substantial amount of money must be raised to permit the project to develop further. An estimated annual budget runs to \$22,000. This would include nominal compensation for instructors, a fee to be paid to WCAX-TV for its out-of-pocket expenses, a salary for a director of the project and money for clerical, travel and printing costs.

Where will the money come from? The state doesn't have funds available. The Burlington school district could not subsidize the program even if it wanted to, since districts other than Burlington benefit from it. But Superintendent Logan is optimistic. He is now approaching local institutions—banks particularly—to persuade them to underwrite the costs involved. He considers the ETV project a superb program for a bank to sponsor, both for its content and for the ideal public relations opportunity it offers. Once funds have been attained, Logan hopes to begin taping the Burlington sessions. The tapes will be made available to similar projects in adjacent states on an exchange basis, thus laying the groundwork for the anticipated New England educational television network he hopes to see within the next few years.

End

SAMPLE LESSON PLANS, BURLINGTON, VT.

A teacher's guide, containing an outline of programs to be offered, is distributed to participating schools well in advance of "TV School" broadcasts in Burlington, Vt. The guide contains a daily schedule of offerings and brief lesson plans for each day's session. Here are two sample lesson plans, reprinted from the TV School booklet.

MONDAY—9:30 to 10:00 a.m. Lesson Plan No. 1—MUSIC

Grades five-six

WORK SONGS

1. Purpose: To introduce students to the history of work songs. How these older songs break down. European and American songs will be used. Professor Horace Beck of the American Literature Department of Middlebury College, an authority on the ballad, will talk on various aspects of the ballad and will have an expert ballad singer with guitar to illustrate the various songs.

2. Materials: a. By viewers: none.

b. By TV instructor: Blackboard, table, two chairs.

3. Synopsis: To acquaint students with the American and European ballads, some of which will be known to them. Professor Beck will show how students in the grades can use these ballads for their own enjoyment and edification.

Followup: Since Professor Beck will give sources, have your students sing some of the ballads covered in this telecast and question them on the history and breakdown of the ballads.

TUESDAY—9:30 to 10:00 a.m. Lesson Plan No. 1—SCIENCE

Grades four-eight

FRICTION

1. Main points to be made by the TV instructor:

- Friction is a force which makes work more difficult.
- There are different kinds of friction.
- Friction is caused when two surfaces slide or roll against each other.
- Friction can be decreased by smoothing surfaces, by lubricating or by decreasing the rubbing surfaces.

2. Materials: a. TV instructor will use boxes, rollers, weights, pulley, boards, glass.

b. By viewers: None.

3. Synopsis: Demonstration will show that sliding friction is greater than rolling friction by using a box with and without rollers. It will also show that friction may be reduced by smoothing the surfaces, lubricating, and reducing the contact areas.

Followup: Try drilling a hardwood block, sawing metal with a hacksaw, rubbing your hands together, and sanding a wood surface vigorously to illustrate that friction causes heat. The energy of work is changed into heat energy.



QUIET! GIRL STUDYING

THIS YOUNG LADY is becoming familiar with legal correspondence through Dictaphone's secretarial training package. She's getting experience typing wills, contracts and other documents. She already understands many common legal terms.

Each day in class, she uses the new TIME-MASTER® transcribing machine and Dictabelt® records—the up-to-date machine dictating method most widely used today. Her practice work is recorded on 18 Dictabelts, one of which includes typical examples of legal correspondence and documents.

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Teachers need not be clerks

Here's how one district has used data processing equipment to get better staff utilization.

By WILLIS P. KERN

Assistant Superintendent, Willoughby-Eastlake City School District, Ohio

■ ■ ■ Like most school districts throughout the United States, we have been experiencing a serious problem as the result of two situations—rapidly expanding enrollments and a shortage of instructional personnel.

With this in mind, our administrators and school board decided

that we had to free our teachers of many of the clerical and routine accounting duties normally associated with teaching. We recognized that it was wasteful to use instructional personnel for duties below the level of their greatest contribution. Moreover, the cost to our taxpayers—both in dollars and in effi-

ciency—was quite plainly excessive.

Taking our cue from business and industry, we decided that an automatic data processing system would be the most efficient way to provide our teachers with more time to devote to teaching, while at the same time speeding our essential clerical work. We also realized

WILLOUGHBY-EASTLAKE CITY SCHOOLS
WILLOUGHBY, OHIO
GRADE REPORT CARD
DO NOT WRITE, FOLD OR IMPERFECT THIS CARD

ONLY ONE MARK IN EACH COLUMN
USE MACHINE SCORING PENCIL

High School Report Card

This is the card the teacher "marks" each six-week period. She has a pre-punched card for each student. Using a special pencil she draws a line next to the pupil's grade for the period. The machines "read" the grade, pull all cards for the student together, produce the report card shown below, automatically!

WILLOUGHBY-EASTLAKE CITY SCHOOLS										SCHOOL CODES:				
- GRADE REPORT -										11 - NORTH HIGH SCHOOL	12 - SOUTH HIGH SCHOOL			
STUDENT NAME										GRADE	SCHOOL YR.	ACH. CODE	ABSENCE	STUDENT NO.
SAMPLE JK										10	5960	11	30	710800
COURSE	INSTRUCTOR	SIX WEEK GRADES						EXAM	FINAL GRADE	CREDIT	GRADE KEY			
ART	M O	4	4	4						100	4 - EXCELLENT (A)			
ALG	L M	4	4	4						100	3 - GOOD (B)			
DR CLASS	S X	4	4	4				4	4	50	2 - AVERAGE (C)			
CHOIR	B J	4	4	4						25	1 - BELOW AVERAGE (D)			
BIOL	R H	4	4	4						100	0 - UNSATISFACTORY (E)			
HISTORY	A C	4	4	4						100	* - INCOMPLETE (I)			

Gr. - UNSATISFACTORY - CREDIT GRANTED - MAY NOT BE USED IN 17% CREDITS REQUIRED FOR GRADUATION OR IN GRADE CLASSIFICATION.

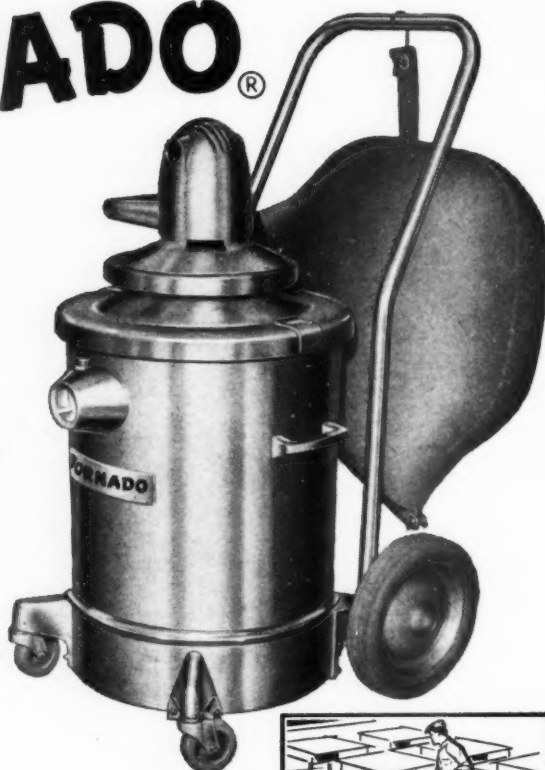
To the Parent: This report indicates your child's achievement in relation to the achievement of his classmates and to fixed standards for the courses taken. If at any time you have questions concerning his progress, you are urged to come to school for conferences with his teachers or the principal.

PARENTS' COPY

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- ★ Highly Portable
- ★ Removable Power Unit For Blowing and Light Vacuuming



School custodians everywhere prefer the Tornado 400 Vacuum Cleaner. Its tremendous, dependable power, durable construction, and portability does every cleaning job faster and more thoroughly.

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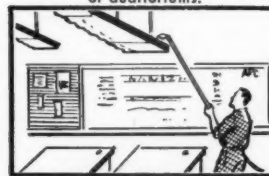
Put the Tornado 400 to work in your school, now!



Wet pickup of suds, water or any liquid.



Clean halls, lockers, classrooms or auditoriums.



Overhead cleaning is fast and easy with Tornado.



Cleans chalk trays, erasers, all around the classroom.



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ditional statistics necessary in preparing all reports concerning students.

The next step is to prepare three master punched cards (the student census cards). These contain: 1) student information; 2) parent information; 3) residence information.

Annual re-registration is unnecessary since these are permanent records, requiring revision only in the event of a change in basic information. A wealth of statistical information can be stored in these cards for studies concerning parent employment, school boundaries, bus schedules, etc. And, these require no searching—the information is automatically available.

Example: when the district was called upon to determine whether it was eligible for federal funds as an area with large concentrations of government housing and/or employment, a report was run—using the student census punched cards—in very little time. There was no searching of records or long, tedious hours of transcribing and recording.

The punched census cards are used to prepare pupil information records on an IBM 402 accounting machine. Copies are made for principals, counselors, and homeroom teachers, supplying identifying information about each pupil, while eliminating the clerical tasks. The cards are filed by school at the district office.

Attendance and grade reporting

Once all students are registered, the next step is to prepare needed forms for attendance and grade reporting. A master attendance punched card file, by school, is prepared by reproducing information found on the student information census card. Mark-sensed attendance cards are created from the master file and, along with a mark-sensed attendance register, are sent to each school office.

Absence and grade reports are based on a six-week period. The absence reports are maintained by the individual school offices so that no accounting, recording or reporting is required of the homeroom teachers, who are thus freed of all responsibility but notifying the school office of absentees.

At the end of each six-week period, the cards and register are forwarded to the district office

Guidance Analysis

TEST ANALYSIS CLASS LIST

WILLOUGHBY-EASTLAKE
CITY SCHOOLS

	STUDENT LAST NAME	INIT	GRADE	BOH'L	INST. CD.	TEST	FORM	VER. MA	N. VER. MA	TOTAL MA	GR. PL.	SR. PL.	TOT. SR. PL.	TEST PERCENTILES	STUDENT CODE
1	ANDERSON	ER	02	32	025		W	3.0	2.9	3.3	3.8	2.7	3.3		295609
2	ATKINS	CA	02	32	025		W	3.1	2.9	3.1	2.0	3.2	3.1		289693
3	BASCOMB	RJ	02	32	025		W	2.9	2.5	2.8	1.9	1.9	1.7		103105
4	BENSON	DE	02	32	025		W	2.2	2.0	1.7	1.3	1.9	2.8		132156
5	CARSON	SD	02	32	025		W	4.4	2.9	4.7	2.5	3.1	2.8		156478
6	DINSON	JW	02	32	025		W	4.5	2.1	3.1	2.3	2.9	3.3		189790
7	ERICKSON	CM	02	32	025		W	3.4	2.9	3.2	2.7	2.8	2.8		215709
8	FENTON	AB	02	32	025		W	3.0	1.8	2.5	2.1	2.8	2.8		231897
9	GIBSON	JD	02	32	025		W	3.3	2.1	2.8	2.1	2.0	3.1		321536
10	HAMMOND	CS	02	32	025		W	4.9	3.7	4.4	3.5	3.7	4.1		267546
11	JENKINS	AV	02	32	025		W	3.7	2.5	4.2	2.7	2.8	2.8		301523
12	KRISCOMB	CJ	02	32	025		W	2.4	2.9	3.0	2.8	2.4	1.4		321533
13	LANNON	DL	02	32	025		W	5.0	2.7	3.3	2.2	2.4	2.8		335457
14	MCCONNOUGH	EL	02	32	025		W	4.5	3.5	3.5	2.7	4.3	4.1		374123
15	NASON	HD	02	32	025		W	3.8	3.7	4.0	2.7	3.4	3.3		398115
16	PEOPLES	JL	02	32	025		W	2.9	1.7	2.2	3.3	2.1	2.4		401456
17	PRINCIPE	LM	02	32	025		W	3.8	2.7	2.4	1.9	2.2	2.8		457890
18	RANKIN	GJ	02	32	025		W	2.8	2.0	2.1	2.2	2.5	2.4		489765
19	RENCOURT	VH	02	32	025		W	2.8	2.0	3.5	2.3	2.4	2.8		501456
20	SAMPSON	HJ	02	32	025		W	2.2	1.7	2.1	2.1	1.5	0.0		421458
21	SEIFORT	FJ	02	32	025		W	2.7	2.1	2.9	2.1	1.9	2.0		513890
22	TANNER	JM	02	32	025		W	4.8	3.7	3.9	3.3	4.1	5.4		589098
23	URANKER	DE	02	32	025		W	4.5	2.9	3.7	2.6	3.8	3.9		623458
24	VERNON	ST	02	32	025		W	3.9	3.3	3.7	2.5	3.2	3.3		723567
25															
26															
27															
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32															
33															
34															
35															
36															
37															
38															
39															
40															
TEST TOTALS ARE IN THIS ROW →								8.50	6.32	7.51	6.02	6.62	6.76		
DATE OF TEST								VERBAL MA	N. VERBAL MA	TOTAL MA	GR. PL.	SR. PL.	TOTAL SR. PL.	TEST PERCENTILES	
TEST AVERAGES ARE IN THIS ROW →								3.54	2.63	3.17	2.51	2.76	2.82		

PRINCIPAL'S COPY

This is the summary sheet for an entire class showing individual standings and totals for the whole group.

where they are processed to provide necessary reports and to insert attendance information on grade cards. In addition to freeing homeroom teachers for other duties, this system has also cut requirements for clerical personnel in the individual school offices.

Grade report cards are produced from class cards (to be described later). Teachers' clerical time is reduced to mark-sensing a grade symbol for the course. Listing of subjects and grades, transcribing to grade sheets and then to report cards and permanent records is unnecessary. The card shows grades earned for the current grading period and each prior grading period. Copies for the office, counselors, and homeroom teachers can be reproduced automatically. From the same grade source it is possible to produce automatically point averages,

ages, class rank, honor rolls and failure lists.

During April and May of each year, students and counselors get together to prepare a class schedule for the coming school year. This is limited to upper grades where students have a choice of classes. Elementary school schedules, of course, are fixed.

After courses have been selected, registration cards are punched to include various class codes. Reports are run off showing total students by class. These are forwarded to the principal, who makes out a master class schedule, showing room number, period, minimum and maximum per class, etc. Punched class cards—designed for mark-sensing use—are prepared at the district office (these are the cards mentioned previously in making out grades). These, plus the registration cards,

are used to prepare a student schedule, teacher class list, counselor's list, and student locator cards.

Another important feature of our integrated data processing system is the student testing program. Standardized tests, administered to students in grades four through 12, are scored by mark-sensing.

Results of the machine-scored tests are returned to the teacher in class-list form. It may be argued that there is an advantage to having teachers score the tests, since they would have an opportunity to be aware of particular responses by individual students. But the time involved in this tedious job would negate most of the advantage.

From the scores received, the teacher is able to determine whether tests of certain students should be reviewed for item analysis. If this procedure is followed, the teacher

still is able to analyze parts of the test for instructional implications.

The use of mark-sensed punched cards for recording test results permits rapid and accurate conversion of scores, production of a test analysis class list, and storage of information in readily accessible form for future recording or analysis.

Permanent records

At the end of each semester, the student class card file is used to prepare permanent record sheets, which are filed in each student's

permanent record folder. The sheets show final grade and credit for each course, a summary of attendance information, test results, and descriptive information as to class and student. At the end of the 11th and 12th grades, additional carbon copies are prepared for transcript purposes. One copy of the transcript is attached to the diploma at the time of graduation. Here, again, is an example of data processing assuming a burden formerly performed by teachers and office personnel.

In essence, the great majority of

clerical tasks normally associated with running a school system has been taken over by our integrated data processing equipment.

In addition, we have been able to use this equipment to project staff requirements, student enrollments, etc., for new schools.

Further, plans are in progress to extend the use of the district's data processing center to staff payroll, appropriation accounting and employee personnel records.

Whenever data processing is discussed, this question comes up: "Is the personal touch lost?"

In a word, no. The adoption of automatic accounting and grading procedures does not destroy the valuable personal relationships.

Actually, the individual guidance counselors are relieved of most of the time-consuming clerical and statistic-gathering functions and provided with a wealth of information, records, and reports concerning the students and their problems.

This permits, first of all, an increase in the number of guidance contacts. Second, it provides an examination-in-depth of each student through the availability of vital personal and educational statistics.

What has been accomplished

Briefly stated, the advantages we have realized include:

1. Less clerical work for teachers.
2. Rapid access to information.
3. Rapid production of records and reports.
4. Additional research activities.
5. Increased opportunity for greater pupil-teacher contact by relieving teachers for such contacts and by providing greater information for use in counseling situations.
6. Increased accuracy. All records, reports and statistics are automatically produced from one source.
7. A more efficient operation in line with good business practice.

Superintendent J. B. Woodside summarizes the benefits of data processing this way:

"One of the greatest investments made by government at all levels is in public education. By adopting similar data processing methods used by industry today, our school systems operate most efficiently at a savings to the taxpayer. Integrated data processing contributes to the betterment of the pupil, the teacher, and the community." **End**

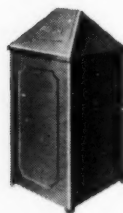


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(Circle number 779 for more information)

HOW TO TEACH MORE EFFECTIVELY WITH AN OVERHEAD TRANSPARENCY PROJECTOR

An important visual aids primer -- clip and save it

As a person who uses and is often called upon to advise in the selection of visual aids equipment, it is essential that you become familiar with the many advantages of overhead projection techniques—how it can make your teaching even more effective, how it helps the student to grasp and to retain ideas, how it increases the scope of your subject matter.

For many teachers the prime advantage of the overhead transparency projector is the fact that it is the only type of projection equipment that is designed to be operated in broad daylight. The ordinary classroom becomes a theater without turning out the lights or drawing the shades. Of course, you must have a projector that provides the maximum screen light required to retain detail and color. Projection Optics' Transpaque Jr., for instance, provides up to three times more light on the screen than any other projector of its type. Transpaque Jr.'s exclusive optical system has completely eliminated a serious overhead projection problem — the distracting rings that have always appeared on the screen.

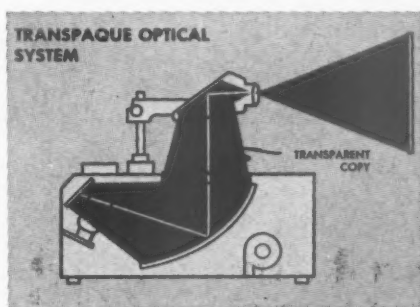
Up-Front Projection

With this teaching tool, both you and the projector are at the head of the class. As you teach, you face your students. You can gauge their reactions, spot questions immediately; students can take notes and you can refer to yours. Remember, the lights are on! In short, with the Transpaque Jr. you retain all the advantages of a classroom environment.

The very small profile of Transpaque Jr., especially the projection

head, makes every seat usable. There is nothing obstructing your view of the class. Every student is able to see both you and the screen. The more compact Transpaque Jr. is also easily portable.

Superimpose transparency over transparency, building a progressive story before the eyes of your class. Transpaque Jr. retains the brilliance



and color even through multi-colored overlays. Each transparency has a large 10" x 10" format. You can tailor-make them yourself, simply and inexpensively. You can buy them already prepared, covering a multitude of subjects.

Write As You Speak

To create large screen images of your notes or ideas, just write in your normal size script on a transparency. It is projected as you write,

(Circle number 755 for more information)



just behind you on the screen. You can draw lines, write clarifying remarks, circle areas of special interest. Your individual technique is as unlimited as your own imagination. There is no squeaky chalk or tiresome blackboard work. Use the roll of transparent film. Write on it and roll it away for a continuous supply of clean writing surface.

Transpaque Jr. is UL-CSA approved. It is easy to operate and trouble-free. For a free demonstration or additional information, write to

Projection Optics Co., Inc.
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Imaginative Engineering Puts Po to Work on *DAYLIGHT*



Mike Best and Ed Kralovec, mechanical engineers on the Madonna school, shown discussing job details with two of their colleagues.

Kralovec & Best, consulting engineers, went one step further in their heat and ventilation design for the new Madonna High School, Chicago — they applied pneumatic control to skylight louvers.

To meet the lighting requirements of the combination auditorium-gymnasium, architect C. I. Krajewski used a system of sky domes equipped with adjustable light dampers. How to control the dampers quickly and efficiently for change-over from plenty of daylight for gym activities to total blackout for movies, etc., was the problem presented to the consulting engineer.

Kralovec & Best's solution was — twenty-nine 4-inch powerstroke piston damper motors — one for each of



Powers Pneumatic Control



MADONNA HIGH SCHOOL Chicago, Ill.

Architect: C. I. Krajewski, Chicago

Consulting Engineers:
Kralovec & Best
Chicago

Heating Contractor:
Windsor Heating Co.
Chicago

the sky dome louvers on the roof — energized instantly from a single Powers pneumatic selector switch in the projection room. Turning the switch activates air pressure at 15 psi. through a Powers Series 500 Pilot Valve to the motors to close the light louvers. When the switch is turned off, pressure is released . . . and the louvers swing open to admit light.

Pneumatic control of daylight in Madonna school is fast, easy and quiet — a definite convenience for the projectionist or instructors, an operational bargain for the school, maintenance-wise.

The complete heating system, as specified by Kralovec & Best, includes two hot water converters controlled at fixed temperatures. Individual classrooms are heated and ventilated by unit ventilators, controlled on the standard day-night cycle. Corridors, rest rooms, storage and locker rooms employ direct radiation controlled by Powers Day-Night room thermostats. For extra safety and comfort, hot water to all showers is controlled by means of a Powers Hydroguard Thermostatic Shower Control.

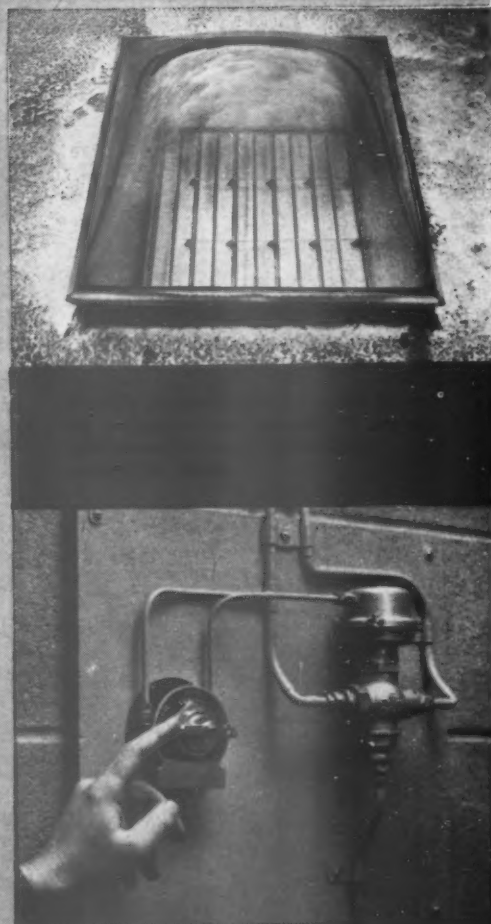
Here, then, is how imaginative engineering applied to pneumatic control can have unusual — but practical — results in an efficient, low cost system.

*Write for the latest Powers Catalog
of pneumatic controls for schools.*



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TO KNOW THEY'RE SAFE, RELY ON SOUND

...AND FOR SOUND OF QUALITY, RELY ON RCA! Naturally you want a sound system to provide dependable day-after-day communication and programming for varied purposes. But an emergency system demands much more in reliability when the basic safety of both pupils and teachers is involved. You can feel secure in the knowledge that RCA Sound has the quality for both jobs—through years of RCA experience and leadership in sound engineering.

From a central RCA console, your voice or signal reaches instantly to every location. You have at hand, literally, every student and teacher throughout your building. And every day, via AM-FM radio, record player and tape recorder, you open classroom doors to the world by transmitting programs to any areas you wish.

The best sound systems begin with knowledgeable planning. Talk with your RCA Engineered Sound Distributor and let him help you map out a sound system for the utmost in safety at a price that's thoroughly practical. Look up your RCA Engineered Sound Distributor in the classified book under "Public Address and Sound Systems." RCA has just introduced a new line of modular sound systems which can be custom assembled in scores of combinations to meet every school budget and need. For information on new RCA "Made-to-Order" Sound Systems, address RCA, Dept. F-110, Camden 2, N. J.




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SOUND PRODUCTS CAMDEN 2, NEW JERSEY

(Circle number 757 for more information)

In Wilkinsburg, Pa., no new school has been built in more than 30 years, but students are being educated in the most modern and advanced facilities. The secret: A planned program of maintenance and rehabilitation.



HOW TO MODERNIZE YOUR OLD BUILDINGS



■ ■ ■ Every kitchen range in the Wilkinsburg, Pa., junior and senior high school home economics departments is a 1960 model. Last year every range was a 1959 edition. Impossible? Impractical? Too expensive? You're wrong. *The district is actually saving money!*

Here's how it works. Because of the appliance manufacturers' procurement program for schools, substantial savings are realized through an annual replacement plan. The supplier replaces each appliance with new models as they become available and reclaims the old models. Result: The school district gets new ranges, refrigerators and other appliances every year for nothing. And in 10 years, when most schools have to start thinking about buying new appliances for their home economics departments, because of depreciation, Wilkinsburg is still using the latest models at no additional cost.

This is just one example of how a program of planned rehabilitation and maintenance has saved money for Wilkinsburg's taxpayers.

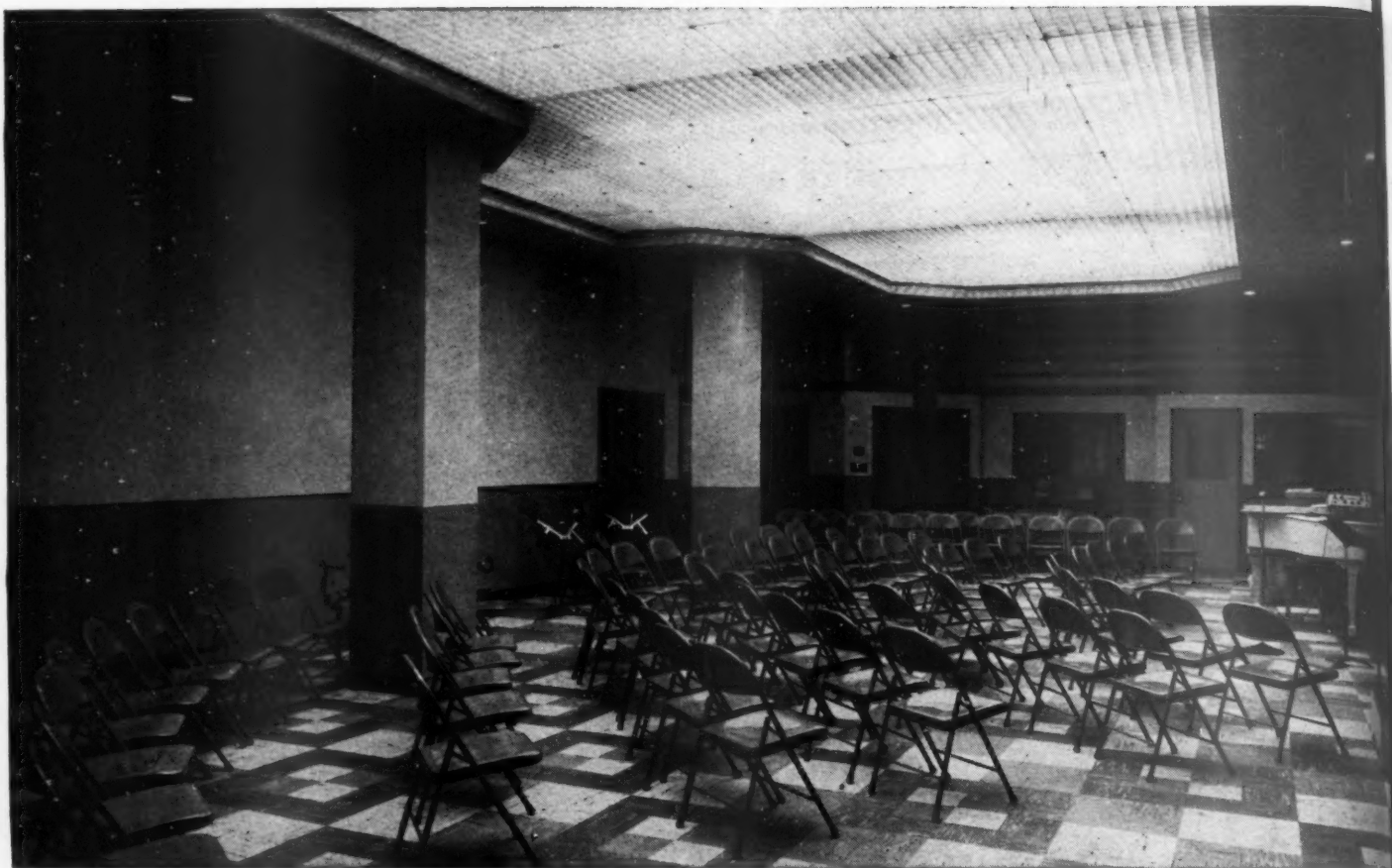
Wilkinsburg is a basically residential suburb in the Pittsburgh area, but unlike the suburbs that have grown up in the last decade, this one is relatively old and stable. Its greatest population boom came in the '20's. Land values are high and open lots are few and far between.

Because of high debt service payments ("During the '30's and '40's, as much as 35% of our budget went to debt service," says Superintendent William M. Potter), little money could be appropriated for proper maintenance. The buildings began to run down.

Facing the facts

In 1948, the Wilkinsburg school board took a long hard look at its situation. Buildings and equipment were in bad condition. Lighting was poor, maintenance procedures outdated. On the other hand, debt payments were being reduced (in February, 1961, the last bonds will be paid off) and more money was becoming available.

Two paths were open. Either the



A modern music room has been constructed in the Wilkinsburg high school in space formerly used for dead storage of equipment. New lighting, piano, and recording equipment were among improvements. Room is used almost daily.

schools could embark on another massive building program (once again incurring 30-year indebtedness), or they could try to salvage the structures they already had.

Besides not wanting to build again, the district found that for practical purposes it was impossible. "Our present high school is a three-story structure," says Board President Kenneth Cooley. "The land around it is built up. Unless we condemn a lot of buildings—at an exorbitant price both in dollars and public relations—we would have to build on the same plot again. So what would we build? Another three-story structure. It might *look* more modern, but we believed that if our present structure was sound, we could get a lot more for our money by remodeling the inside to accommodate a modern school program."

Working on this premise, the board hired a firm of architects to

make a survey of the schools along with the district's superintendent of buildings, D. F. Klinefelter. Their job was to tell the school board which buildings were basically sound, what alterations and rehabilitation were immediately necessary and how much each job would cost.

All but one of the district's six elementary schools, one junior high and one senior high were declared structurally sound. The one elementary school that did not meet minimum requirements was closed and students were redistributed throughout other schools.

With the architect's report in hand, the school board met to give priority ratings to various jobs. "If we had a leaking roof, that certainly got top priority," says Board Member Blair Studebaker. "But for other than emergency situations, priorities were assigned on the basis of our feeling for the need and im-

portance of the particular job and its effect on the curriculum and our educational program."

Planning for rehabilitation was not done on a haphazard basis. "We felt that this kind of thing had to be done over a period of time," Board Member John Cleland recalls. "We knew that we couldn't commit succeeding school boards to budget for our plan, but we felt that if we made sense, any succeeding board would carry it out. Actually, two of us have been board members since the planning was inaugurated."

The board started its program on the basis of a five-year rehabilitation plan but has added other improvements with each succeeding year. Priorities were given to re-lighting schools, painting interiors and exteriors and replacing equipment. Present planning covers current year needs plus plans for at least two years ahead.

Once rehabilitation had been com-

pleted, the board considered continuing maintenance problems. In other words, after each building had been painted, a regular schedule of repainting was posted and the job was budgeted for on a year-to-year basis. "We established a schedule of repainting exteriors every five years, interiors every seven," says Board Member Fred Hedding. "This is a constant maintenance cost. On classroom and other furniture, of course, the schedule is much longer. We hope our school furniture will last 25 years. But even here, replacement is on a scheduled basis.

"We found that window shades, for example, need replacing pretty regularly. That's now on a schedule. Windows must be caulked constantly. And the lighting systems in every building are relamped every two years. That means that we change every bulb whether it's burned out or not. We find that that's just as cheap as letting each bulb burn out and then calling in a maintenance man to replace them piecemeal."

Major rehabilitation

The first major rehabilitation project undertaken in Wilkesburg was remodeling and refurbishing the high school home economics department. "At the time we did it, [1951] the job cost us \$75,000," says Superintendent Potter. "That was complete with all the equipment, shelves, ranges, etc. Today I would say that comparable remodeling would cost about \$125,000."

Although the Wilkesburg budget does not need to be passed on by the taxpayers, the administration was aware of the possibility that this kind of spending could be labeled an unnecessary frill. To provide better public understanding, the school board prepared a brochure explaining its program. This was mailed to every home. "We had always had a homemaking department," reports Potter, "so we weren't worried about reaction to that, but we wanted to explain our whole rehabilitation idea to the parents, so that they would understand what we were trying to do. We explained that it was impossible to teach a modern homemaking course in our old facilities [built in 1911]. If we wanted to teach the subject—and we did—we had to provide suitable quarters."

It was as a result of the homemaking remodeling that the district learned how it could replace all of its homemaking appliances at no cost to the schools. "A lot of people think this was possible only because we're near a number of large appliance plants," says Board President Cooley. "But these are national firms and any school district can take advantage of a replacement plan such as ours. It doesn't work in some areas simply because people don't make it work."

Rebuilding the high school science department was another high priority item. This, the school board points out proudly, took place *before* Sputnik.

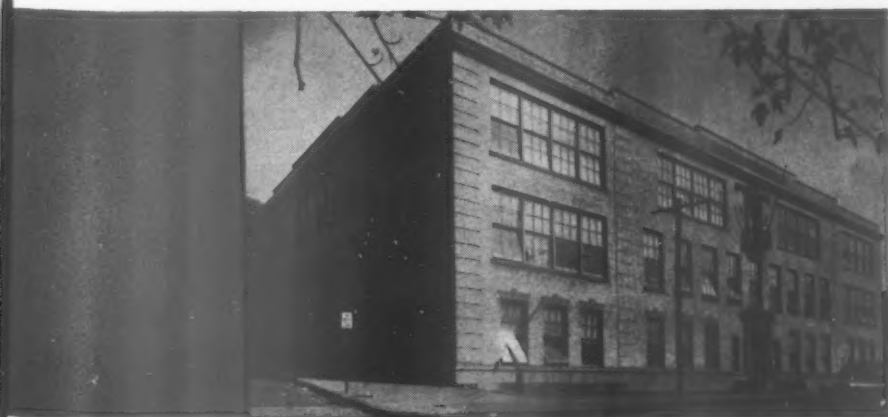
To remodel the science laboratories, the district ripped out every extant fixture and started with the bare shell. "This doesn't mean that we simply threw everything away," cautions Superintendent Potter. "We re-used whatever equipment we could—things like sinks and lab tables. And we salvaged cabinets by repainting them. It cost us \$125,000 to refurbish our science department and now we've got as modern a program as any school in the state."

Other major rehabilitation jobs concerned the school auditorium, the junior and senior high school cafeterias, a band room, changing a tiered lecture hall into classrooms, replacing old windows with glass block and aluminum frames, and a continuing program of modernizing classrooms and other instructional areas in every school. (*See pages 88-91 for some remodeling projects.*)

"When we were considering remodeling our auditorium," says Board Member Hedding, "we went to all the auditoriums in our area that we felt were worth examining for ideas. We found that our 1,600-capacity auditorium was one of the most functional and beautiful in western Pennsylvania.

"We took out the old orchestra pit and brought it to floor level, establishing a larger area for the orchestra. We replaced all the old stage rigging and put in brand new gear, curtains and lighting, including a special control panel. Our lighting now is about as perfect

Outsides of buildings were first project. All buildings were steam-cleaned, repainted. Wooden sash windows were replaced by glass block and aluminum. Aluminum doors were installed, outside lighting improved.



BEFORE



AFTER Whole atmosphere of Wilkinsburg schools was affected by rehabilitation of halls. Painting and relighting changed dingy depressing scene into bright one. New lockers, cleaned floors, some new classroom doors added to fresh look.

as you'll find in any auditorium. And our stage is big enough to hold a 125-piece orchestra."

Modern program, old building?

One question that kept popping up during the Wilkinsburg rehabilitation program was: "Can you put a modern program into an old building?" To this, Superintendent Potter answers a resounding "Yes."

"In the first place, we must ask ourselves what is a 'modern building,'" he points out. "A school constructed today may not be modern in 10 years. It may be outdated in two or three. Our schools were all well constructed. Many of them are probably better built than most structures going up today. We had large rooms—often bigger than today's requirements. We don't have a nice one-story structure, but we couldn't have that anyway. Our furnishings, our equipment, our lighting, all these are modern. If you were to walk inside one of our schools today, you'd never guess that it was more than 30 years old. Only the outside architecture gives that away.

"We have spent \$750,000 out of current funds to remodel our high school. We expect that building to last another 50 years. Even if we remodel four or five more times in those 50 years, it will cost us considerably less than it would have to construct a new building. A modern new building for the same number of students today would cost us \$7 million."

Maintenance, too

Wilkinsburg has been spending approximately 10% of its annual budget on rehabilitation and maintenance of its buildings. (The national average for building maintenance is about 3.5% of total current expenditures.) But rehabilitation, without a proper maintenance program, is simply a waste of money.

"Since our whole program was put on a planned basis," says Potter, "we decided at the same time to reorganize and modernize our maintenance practices.

"All maintenance and rehabilitation projects were put under the

direction of D. F. Klinefelter, superintendent of buildings, who aided in setting up a regular program for repainting, relighting and caulking. Klinefelter worked with the architect in surveying the buildings, helped plan the work pattern and plotted maintenance routines."

In 1955, as part of the rehabilitation project, the district constructed a supply warehouse and maintenance repair shop. The cost of the project was \$68,500 and its completion released eight rooms in school buildings for instructional purposes.

By centralizing supply and maintenance operations, the district has been able to cut its purchasing costs by about 15% annually. Control over custodians was also improved.

The district employs 35 custodial workers (men and women), five utility mechanics and one stock clerk. Klinefelter has made it a practice to hire men in their 40's, who have had construction experience, to work as custodians. He finds that these men can readily double as mechanics and craftsmen and function well as

text continued on page 91



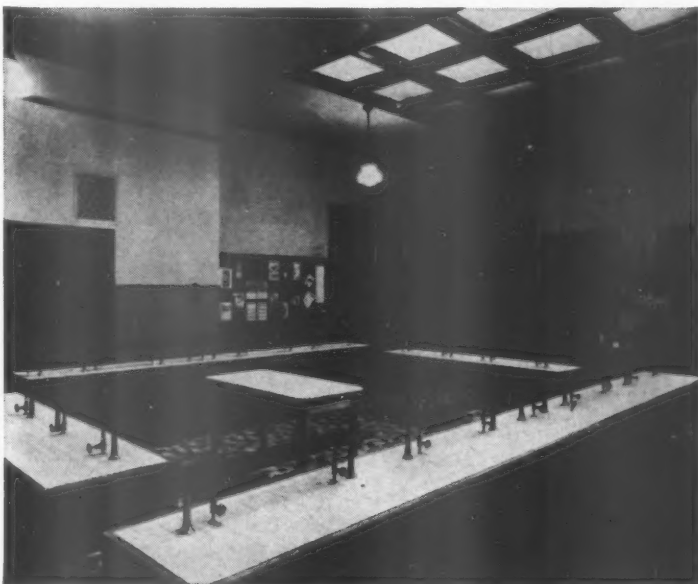
BEFORE

AFTER

New lighting, and glass block windows, made all the difference in this Wilkinsburg elementary school classroom. Reading light was raised from inadequate level to better than 30 foot-candles at children's desks.

BEFORE

Home economics laboratory, built in 1911, until recently sported only equipment of that era. In this case, only the room



AFTER

shell was retained. New lighting, plumbing, wiring were installed, and the ceilings were lowered.

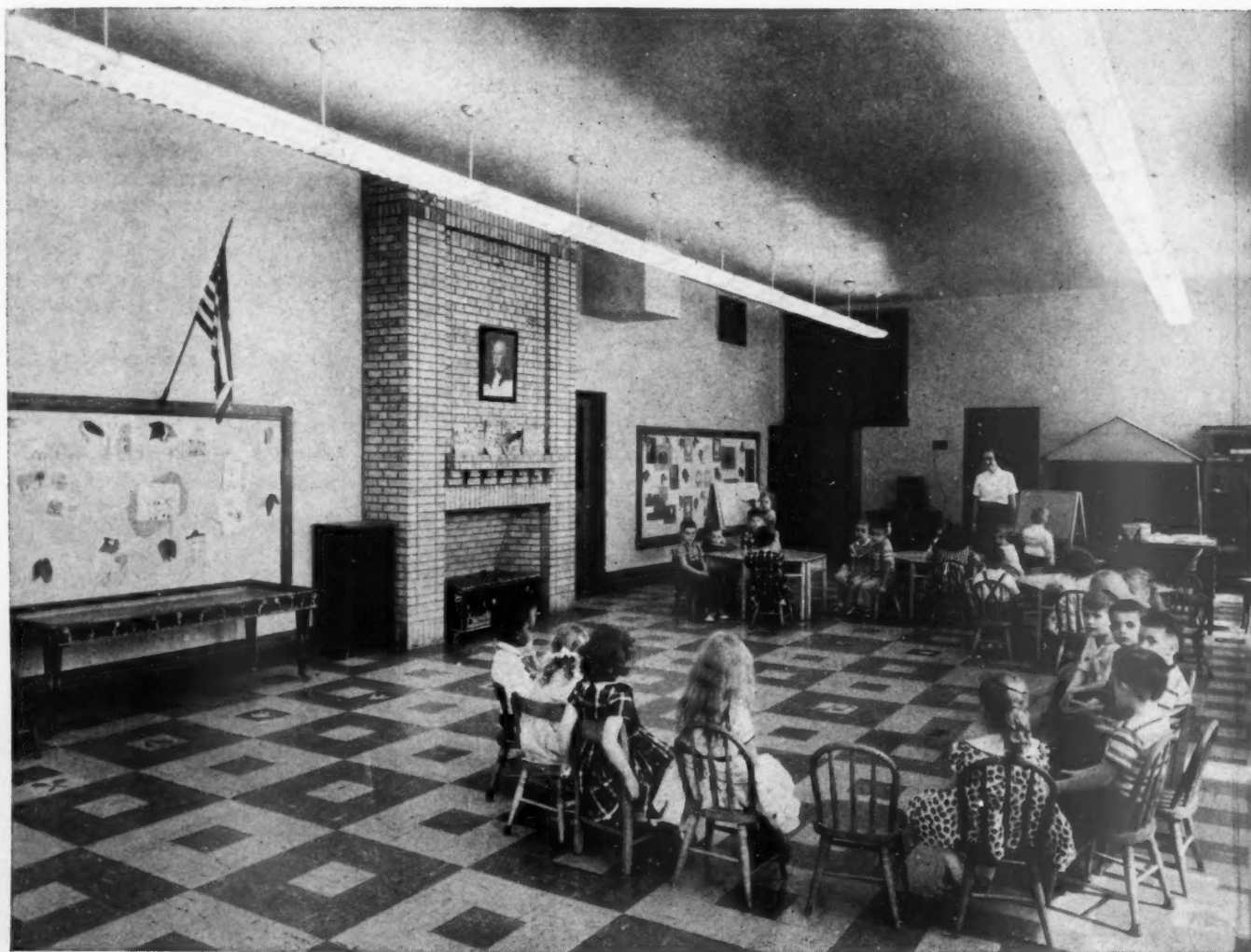


BEFORE

Only five foot-candles of light were available in this kindergarten room in the Allison School. New lighting brought level to 35 foot-candles.



AFTER



Kindergarten classes in old room (top picture) were handicapped by bad lighting, dingy walls and floors. Teachers found it difficult to do close work. New lighting, painting, bright flooring and steam cleaning of fireplace transformed room into first-class educational station. Such remodeling was undertaken in every room where it was necessary.

BEFORE

This hallway, a maintenance supply room, and an unused court were remodeled into a modern kitchen and dining area for \$125,000. Total cost included all kitchen machinery. Construction of new dining facilities eliminated unsatisfactory condition, and also allowed district to institute closed lunch periods.

AFTER



text continued from page 88
a maintenance crew during the summer months.

Each building in the school system undergoes rigid inspection every year. Each principal must fill out prepared forms, listing all repairs and improvements needed in his individual school. These forms serve as a guide to budget proposals and work patterns in the following year.

The Wilkinsburg maintenance department also makes it a practice to anticipate problems. "Once in awhile we get caught short," says Superintendent Potter. "Just a few months ago the main and auxiliary

furnaces in one school broke down during the same week. They've since been replaced at a cost of \$75,000. We didn't expect this expense, but we were able to provide for it out of current funds.

"We try to keep ahead of the game. Relamping is one example. We don't wait for bulbs to burn out. We check all of our mechanical equipment regularly in an attempt to forestall breakdowns.

"With a rehabilitation program that is planned ahead—and with constant maintenance—we feel that we are able to provide a modern education even in our oldest buildings."

End

Why many school administrators welcome bottled soft drinks



Many school systems have awarded soft drinks a place in food and refreshment facilities. There are three basic reasons:

1. DIETARY VALUE: Soft drinks are accepted in dietetic planning as an "accessory food." Like relishes, they accent the diet healthfully. Thus they add flavor and variety to menus that otherwise may seem routine. Soft drinks provide 100 calories of food energy per 8 ounces in easily assimilable form—a helpful contribution during the school day to pupil alertness and interest.

2. WHOLESOMENESS: As you

know, the body loses $2\frac{1}{2}$ quarts of fluid each day. Soft drinks help restore body fluid balance. Carbonation adds zest and palatability. In addition, soft drinks aid digestion and stimulate appetite. Because they are liquid, soft drinks pass quickly through the mouth, with virtually no involvement in oral conditions related to dental problems. Recent dental research reaffirms this thinking.

3. SOCIAL VALUES: Availability of soft drinks within school limits at lunch time, and at social events encourages youngsters to stay on school property. Soft drinks can be an important aid in

fostering desirable behavior patterns. Social activity is more readily supervised and promoted.

These are some of the reasons why soft drinks have a place in the food and refreshment facilities of our schools where bottled beverages are easy to store, handle and serve economically. If the subject of soft drinks in schools comes before your Board, talk it over with your local bottler. He's a tax-paying businessman of the community, dealing in products which contribute to the local economy in the same way as other food products served on school premises. He's entitled to a fair hearing.

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(Circle number 703 for more information)

which are more expensive:

Unified or non-unified districts?

Here are the results of an analytical study of school district costs under both plans. Though the figures are based on California's experience, the results have universal application.

By JOHN P. SHELTON and PETER GRAY

■ ■ ■ If your district is contemplating unification, your major consideration will be the effect it can have on the quality of education. Most experts agree it *does* improve the educational product. But it will also affect your *cost* of education. So, facing facts, you'll probably have to hurdle the cost factor first in making any plans.

Are unified—combined high school and elementary—districts more costly? At the outset, one might expect that they would be. Certainly they have a larger proportion of their students in the higher grades where education is more expensive. But when one analyzes actual figures *and compares on a basis of similar class-level compositions*, unified districts prove to have a lower per pupil cost.

A study of comparative costs

Unification may increase costs in some districts. (A case study of Mariposa, Calif., Unified School District, before and after unification, indicates an increase in cost due, in no small measure, to increased costs of pupil transportation.) But the real issue is whether unification is generally associated with higher costs per student. Apparent support for the belief that unified districts may be slightly

more costly to operate than non-unified districts is contained in the annual report on "General Fund Expenditures of California School Districts," published in *California Schools*.

The data for recent years are tabulated below in Table 1.

In every year the cost in unified districts exceeded the statewide average for non-unified districts, and, of course, the statewide average for all students.

Further examination shows, however, that direct comparison of the above data is misleading. One major adjustment is necessary before a

meaningful comparison can be made. The higher the level of education, the greater the operating expense per pupil. *Thus, the fact that unified districts have a larger proportion of students in the higher grades must be evaluated before making cost comparisons.*

Consider the distribution of students, according to level of education, in 1956-57 and 1957-58 as shown by Table 2.

Since unified and non-unified districts have a different mix of students, how can cost comparisons be made between them? This can be done by weighting the numbers in

Table 1

	Total current expense of education per average daily attendance				
	1953-54	1954-55	1955-56	1956-57	1957-58
Statewide—all levels	\$306.16	\$312.40	\$323.23	\$346.24	\$372.91
Unified districts	315.33	319.27	332.34	357.29	381.07
Non-unified districts	302.54	309.60	319.58	341.78	369.66

Table 2


	Distribution of students	
	Non-Unified districts	Unified districts
1957-58		
Elementary (grades kindergarten—six)	59.48%	57.18%
Grades seven and eight attending elementary schools	7.29	1.96
Grades seven and eight attending junior high schools	5.69	10.51
High school (grades nine-12)	22.68	24.57
Junior colleges (grades 13-14)	4.86	5.78
1956-57		
Elementary (grades kindergarten-six)	66.76%	59.14%
High school (grades seven-12)	29.08	35.06
Junior college (grades 13-14)	4.16	5.80

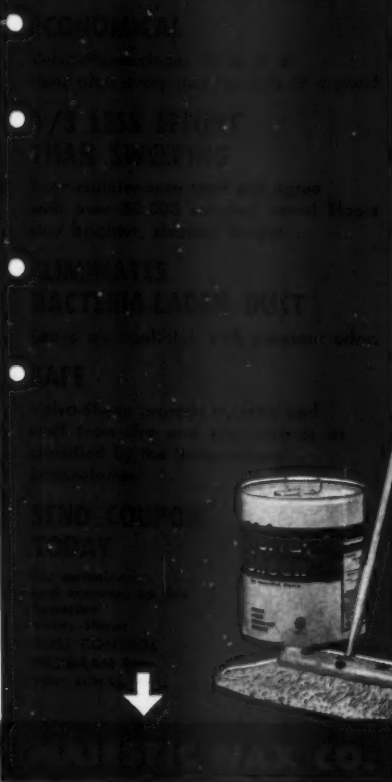
Editor's note: This article was prepared at Claremont Graduate School, Claremont, Calif., where John P. Shelton is associate professor of economics.

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different levels of education by the appropriate cost per student at that level. The cost figures in Table 3 are the statewide average costs per pupil in *non-unified* districts in California for the academic years 1956-57 and 1957-58.

Table 3

	1956-57	1957-58
Elementary districts	\$290.42	\$315.61
High school districts	444.25	475.80
Junior college districts	474.42	495.17

This means that, in terms of cost in 1957-58, 100 high school pupils are the equivalent of 150.8 elementary students and 100 junior college students cost as much to educate as 156.9 students in grammar school.

Using these weighting factors it is possible to see what the costs of non-unified school districts would have been in the two academic years under review, had they had the same grade distribution of students as the unified school districts. The per student cost figures for the two types of school districts for the years 1956-57 and 1957-58 are:

Current education expense per
average daily attendance

	1956-57	1957-58
Unified school districts	\$357.29	\$381.03
Non-unified school districts	354.30	382.18

Thus, after the upward adjustment of the costs of the non-unified districts by amounts which compensate for the different mix of students, the original differences for the two years under consideration (\$15.51 and \$11.36 respectively—see Table 1) have been reduced to \$2.99 for 1957 and completely eliminated in 1958. In fact, the weighted cost for the most recent year shows an advantage of \$1.17 for unified districts. However, these discrepancies are so small that they could easily have been caused by factors other than unification or the lack of it. (And, in districts without junior colleges, the figures might tilt the other way.)

Another study

A similar comparison was made between non-unified school districts and 12 districts that were unified

from kindergarten through junior college, for the same two years. The results emphasize more clearly the findings given above: in both years the Current Education Expense per Average Daily Attendance (CEE per ADA), for those districts in which unification was carried to the limit, was below that of non-unified districts when the costs of the latter had been adjusted to represent comparable proportions at each grade level. This is shown in these figures.

Current education expense per
average daily attendance

	1956-57	1957-58
12 school districts unified from kindergarten-14	\$359.30	\$378.54
Non-unified school districts (adjusted)	362.08	390.13

More incisive data are obtained by breaking down the current cost of education into its component parts. If unification achieves economies these would be expected to lie in reduced administration costs. This is detailed in the study of *California Local Finance*, especially in a chapter prepared by Hubert Armstrong and Frank Farner. They report that in 1956-57 costs of administration as a percentage of total CEE were:

Elementary districts	4.22%
High school districts	3.88%
Unified districts	3.43%
All districts	3.94%

To extend this observation, all elements of total CEE per ADA other than teachers' salaries were compared, using the same index number weighting system to make the grade mix of unified and non-unified schools comparable. The cost breakdown shows the following comparisons when the distribution of students in the non-unified districts is adjusted to equal that in the unified districts.

	1956-57	
	Non-unified districts	Unified districts
Teacher cost per ADA	\$223.68	\$232.76
Other cost per ADA	130.62	124.53
Total cost per ADA	354.30	357.29

1957-58

Teacher cost per ADA	\$255.20	\$267.29
Other cost per ADA	127.00	113.74
Total cost per ADA	382.20	381.03

The 1956-57 cost comparison between the two systems on the basis of total CEE per ADA showed, after adjustment for their different grade level distribution, that a small discrepancy (\$2.99) existed in favor of non-unified districts. The slight cost difference is entirely attributable to the fact that *unified districts spend a larger amount per ADA for teachers' salaries*. This greater expenditure on teachers' salaries exceeded the economies in administrative and other overhead costs achieved by the unified school districts and resulted in the higher over-all cost of \$2.99 per pupil. In 1957-58 the unified schools showed a saving of \$1.17, which is even more impressive in view of the fact that unified districts incurred a larger outlay per student for teachers' salaries. Thus, if it is assumed that higher teachers' salaries are associated with better quality teaching, then the results of this study suggest that unification, instead of being more costly, really permits a school district to buy better instruction at no extra cost.

Conclusions to be drawn

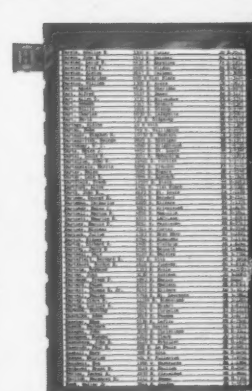
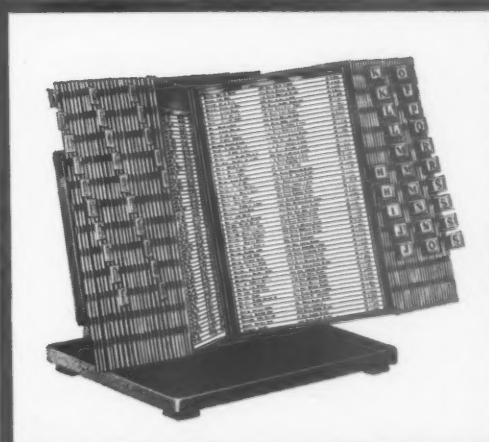
Since the final total cost differences in both years amount to less than 1% of the total CEE per ADA (and did not consistently favor one side), the major conclusion is evident: That the choice between unification and non-unification should be made on the basis of its effect on the quality of education since cost considerations are negligible on either side.

Obviously the conclusion of a study such as this must be qualified by the limitations of its data. The cost figures are developed from two years only; also the actual cost data from individual school districts vary widely from the average so it would be incorrect to conclude that unification of a presently non-unified district would certainly result in no increase in cost. In particular, separately organized districts spending, prior to unification, an amount per pupil that is below the generally accepted education standard, may

find that along with unification there is a concomitant pressure to increase the quality of teaching and that this more than offsets the savings that can be expected from administrative efficiency. Also, if unification is accompanied by consolidation (i.e., the centralization of educational facilities for a large area), increased pupil transportation costs may be expected. But, in general, the cost of administration, maintenance, and utilities should be lowered enough to compensate.

Despite the fact that any indi-

vidual school district might find its cost increasing (or decreasing) slightly as a result of unification, this study shows that educators and other interested parties who may have thought that "unification improves education, but it is also likely to increase costs," need not worry further about the cost aspect. When properly analyzed, there is no support for the belief that unification is a more costly form of school organization, on the average, than the operation of separate districts for different educational levels. **End**



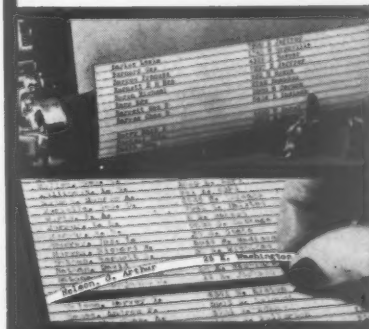
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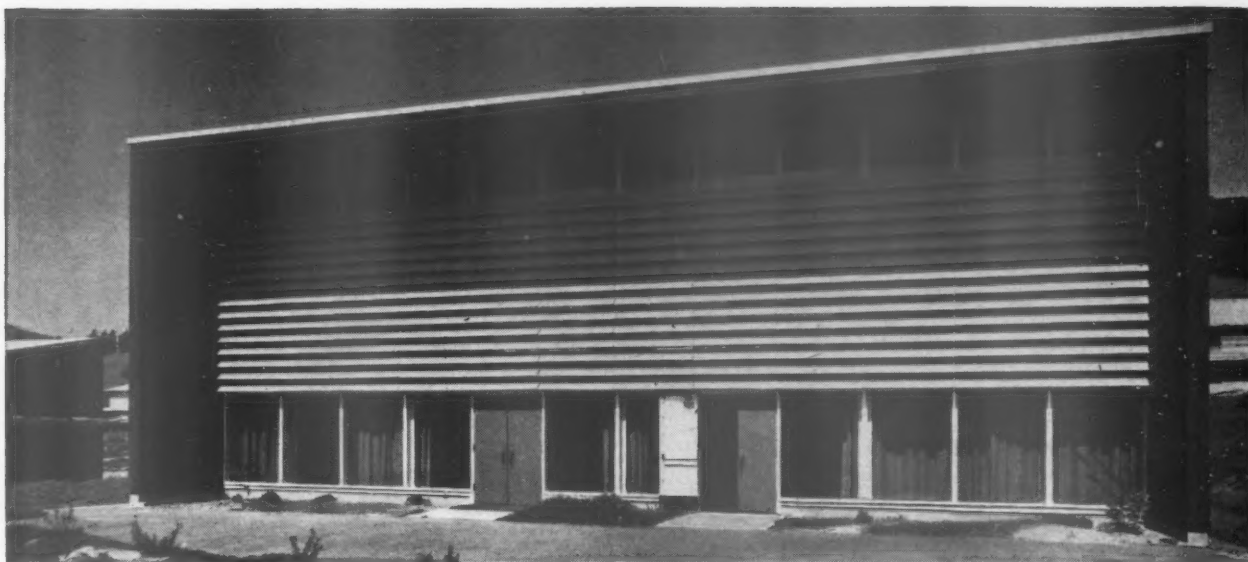
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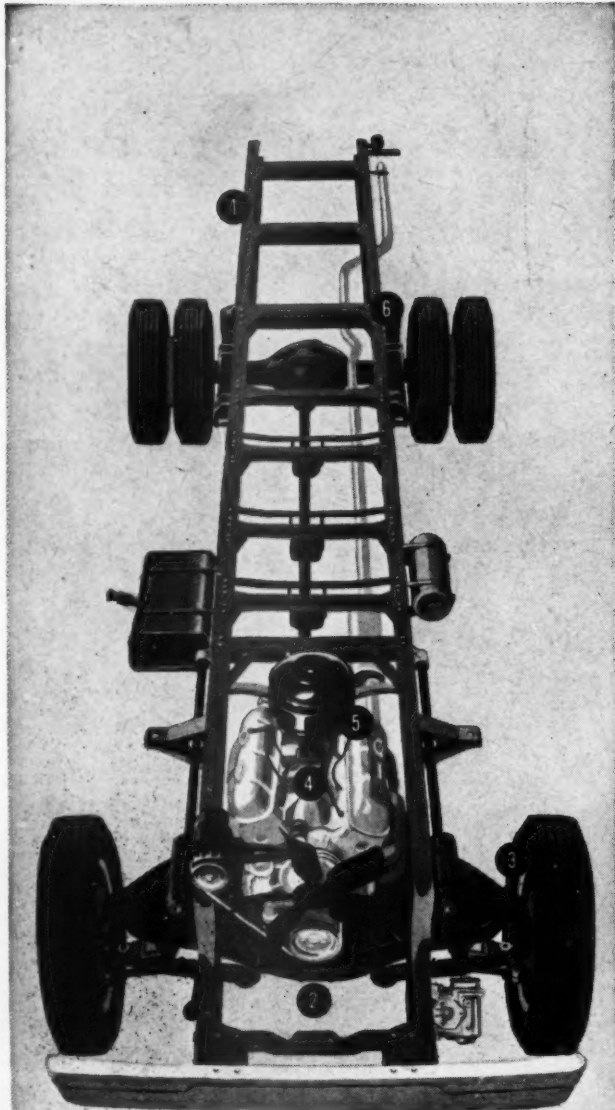
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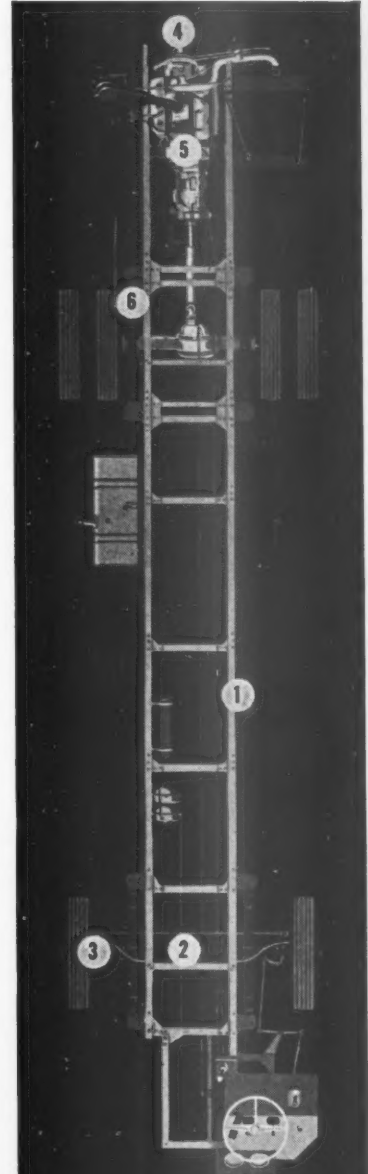
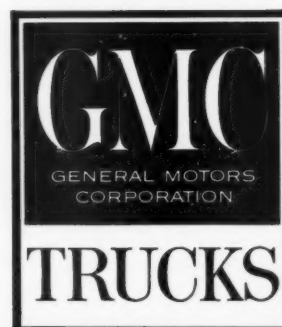
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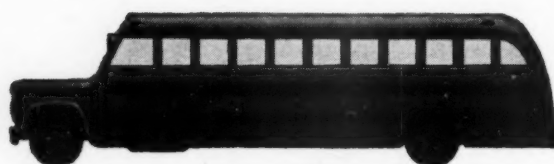
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(Circle number 731 for more information)

How to construct

a school-family census map

Have you ever thought of the ways you could use a census map, and wished you had time to make one? Here's how it was done in the Schalmont Central School District, Rotterdam, N. Y.

By ROBERT B. SHAFER

District Vice-Principal, Schalmont Central School

■ ■ ■ Our district's school-family census map tells at a glance exactly where each student's home is located. As a result, we can:

■ Quickly lay out the most efficient bus routes for transporting youngsters to and from school.

■ Easily make personal home visits when they are required.

■ Keep an accurate, visual check on fluctuations of student population anywhere in the district.

■ Use the map as an instructional aid in the classroom.

From the time our central school district was organized in July, 1955, we had used a Schenectady County map to pinpoint transportation needs. But its other uses were limited. It dealt with a far larger area than the Schalmont Central School District and was not detailed enough for our local purposes.

After the completion of our 1958 census, we decided to make a census map of our own, using all the information compiled by Mrs. Mae Decker—our district attendance of-

ficer—who is also chief census enumerator.

When planning for the 1958 school-family census, Mrs. Decker had divided the district into 10 sections, each containing approximately the same number of families. One census taker was assigned to each section and given a rough sketch of the territory he was to cover. On the sketch, he entered the location of every house in his section and the name of the family living there. Houses with children were marked "O," those without children were marked "X" and empty houses were so labeled.

The 10 sketches, upon completion, were joined together to form a complete census picture of the school district with the names of every resident family listed.

How the map was drawn

Fortunately for us, one of the census takers was Wilhelm Schipper, a retired General Electric Co. draftsman. He offered to make a

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single, large map—on linen paper—of the whole central district.

The 10 original census sketches were Mr. Schipper's major source of information for the data included on the large map. But he also referred to old road maps of the district and even made personal field trips to verify topographical features, street layouts and the like. In the final version, a number of the smaller, consolidated areas in the district appear in magnified form along the map's outer edges.

The densest of these was divided

into two parts and a separate map was made of each, giving the numbers of the houses on each street. Because this area is so densely populated, the two maps are kept in a separate notebook together with typewritten sheets containing the names and residences of each family living there.

In this same notebook, Mrs. Decker keeps—for her own convenience—smaller maps of different sections of the district which she traced from the large map. Because this notebook is portable, it should

prove most helpful to census takers in the field in years to come. Right now, Mrs. Decker finds it invaluable when making personal visits on attendance cases.

How we use our map

We immediately found our comprehensive map a great help as a central source of district information. And it has in-school uses, too. A social studies class finds the map an important part of its study unit on "Our Community." And a member of our department of school health services recently created a lesson in safety using visual aids—among them, reproductions of our school-family census map—devoted to "How do you get to school?"

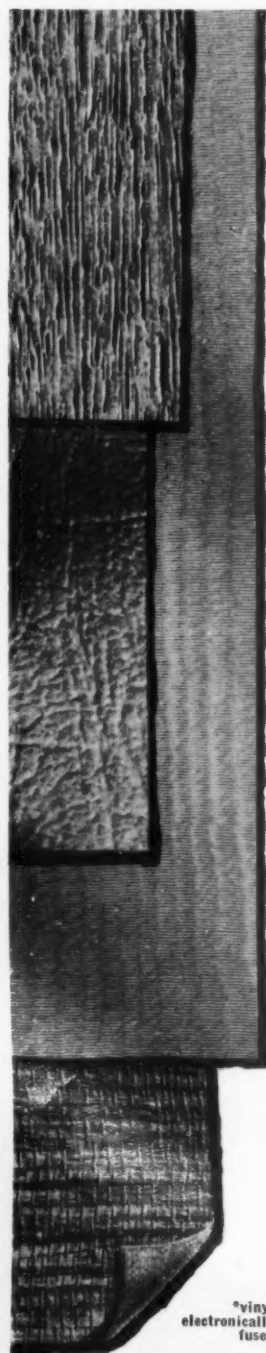
But when the town fathers came to us for information about district boundaries, the other bonus values of the "Schipper map" became apparent. For here, on these sheets of linen, was more than a census map. It could be used by various political officials in the town of Rotterdam—by town assessors, town and school tax collectors, water district and sewer district commissioners and fire district officers. In addition, it is highly likely that the map will be used to coordinate future civil defense efforts.

One volunteer fire company now combines it with a numbering system for more efficient response to fires, a historical society is using it for the location of local historical sites and a neighborhood church uses it to determine parish boundaries and locate new parishioners.

So what began as a strictly school project has become community-wide in its scope.

One of the most important features of our map is the ease with which corrections can be made upon it. We keep it up to date by simply erasing the names of families which have left the district and lettering in the names of newcomers. And, since an annual census is obligatory, we shall have such information right at hand each year.

There may be other ways to create a comprehensive map such as ours—aerial photography, for one. But, chances are, such methods would prove far more costly. Mr. Schipper rendered his service at a cost to our district of less than \$200. That small outlay has resulted in an invaluable tool. **End**



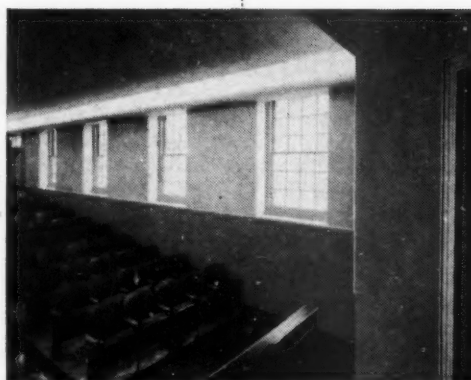
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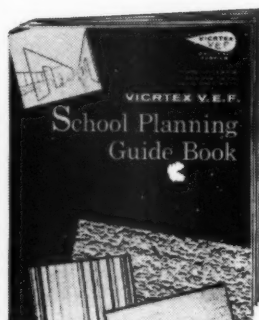


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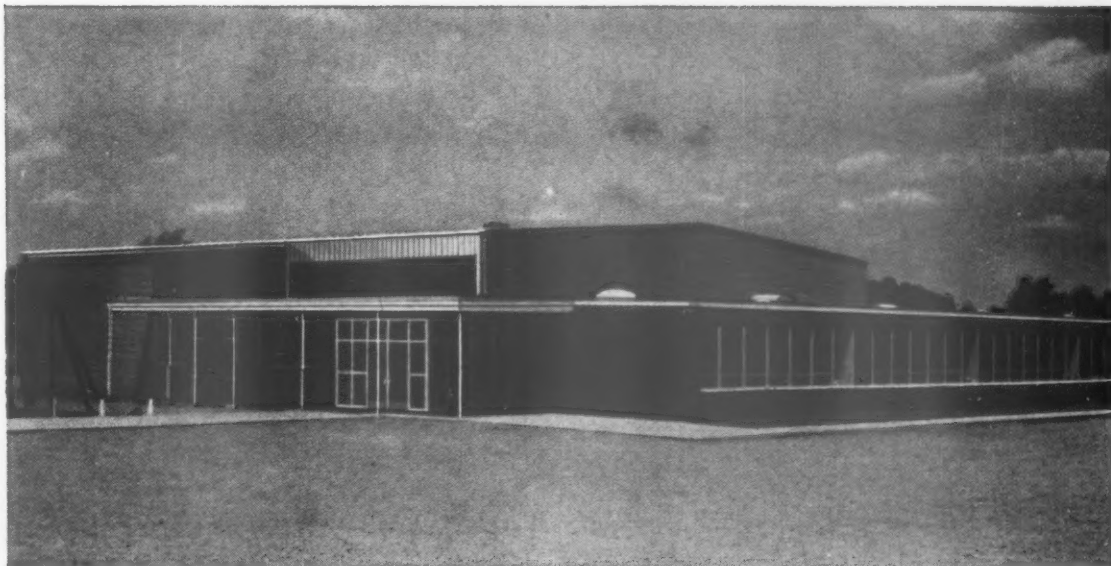
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How to turn a basement into a library

A low-cost way to convert an available basement room provided this school with a central library.

By Dr. HARRY O. EISENBERG, *Superintendent, Rose Hill-Minquadale School District, Del.*

■ ■ ■ Before September, 1959, each class in our Rose Hill Elementary School had its own separate classroom library, maintained by each individual teacher. But we had long been aware of the drawbacks of these conventional libraries.

For one thing, only a limited number of books could be kept on hand in a given class. For another, books were often duplicated since each teacher naturally selected those books she considered most suitable. As a result, the development of an extensive reading program for Rose Hill's 600 pupils was frustrated.

Convinced that a central library is the heart of an elementary school, we decided to establish one in the Rose Hill school as soon as funds became available. Last fall we were able to carry out our plan.

Space was available

An available basement room—with about 1,200 square feet of floor space—was selected as the

site for the new library. Light, heat and ventilation were satisfactory. The only major addition was bookcase shelving.

After considering both wooden and metal shelving, we finally chose metal because of its lower initial cost and the fact that it could easily be assembled or dismantled.

It took two school custodians only a day-and-a-half to install the bookcase shelving units, supplied by Penco Div., Alan Wood Steel Co. Eighteen single-faced units were installed in a continuous row along two walls while two rows of double-faced shelving, containing 16 units, served as a divider. The total cost of the shelving units—finished in gray to harmonize with the room color scheme—was only \$825, delivered and assembled.

The units are 42 inches high and 36 inches wide. Each side of a unit is slotted on one-inch centers so that the shelves can be moved up or down in one-inch steps to easily ac-

commodate the odd-sized volumes.

Rose Hill's new library now contains about 2,700 books, or five per child. We hope to increase this to a planned minimum of eight books per child, in addition to audio-visual aids and exhibits.

At the present time the library is supervised by the district's traveling librarian who is at the school twice a week. She instructs the children in the use of the card catalog and other library resources and, if time permits, conducts story hours. On the three days when she is not present, individual teachers supervise their own classes during library periods, guiding them in special research projects and the like.

Eventually, we hope to engage full-time librarians for Rose Hill and all other elementary schools with enrollment of more than 600. In our smaller schools, the central libraries will continue to be supervised by the district's librarian on a twice-a-week basis. **End**



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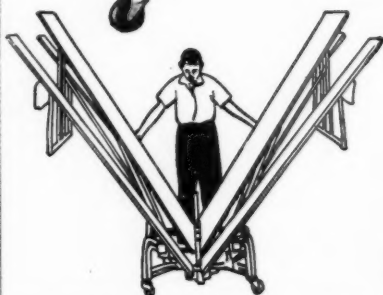
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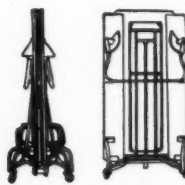
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SM-5

County medians determine district salary schedule

Here is how one school district has established a formula for determining teachers' salaries over a three-year period.

By JOHN H. MOEHLE

Superintendent, Carle Place, New York

Editor's note: This imaginative program faces up to the present inflationary trend in educators' salaries. For details of this rapid upward revision, see the Cost of Education story on page 58 of this issue.

■ ■ ■ On Monday, February 29th, the Carle Place, N. Y., school board adopted an unusual salary formula for teachers which will become effective Sept. 1, 1960. The formula is experimental in nature and will be continued for a three-year period if it proves successful after a one-year trial period.

Teachers' salary for the school year 1950-61 will be based on the present *beginning median salary* and the *maximum median salary* of the 57 other school districts in Nassau County. To establish the new schedules for 1960-61, \$200 is added to the beginning median salary for the county and \$300 is added to the maximum median salary for the county. These amounts are added to the medians *in anticipation that salaries throughout the county will increase by these amounts for the school year of 1960-61*. The \$200 and \$300 factors were accepted because they represent the average median raise, at these steps, each year for the past five years in Nassau

County. There are 15 steps in the present salary schedule, based upon the median number of steps throughout the county for Schedules A (bachelor's degree), B (master's degree), and C (master's degree plus 30 hours).

Under this formula, (*see table*)

three new schedules were adopted. Under Schedule A, for those teachers with a bachelor's degree, the current beginning salary is \$4,800, with a maximum salary of \$8,300. The beginning salary for Schedule B is \$5,200, with a maximum of \$9,050. The schedule for a master's degree

THE CARLE PLACE TEACHERS' SALARY SCHEDULE

	Schedule A		Schedule B		Schedule C	
	Present	Proposed	Present	Proposed	Present	Proposed
1.	\$4700	\$4800	\$5000	\$5200	\$5300	\$5600
2.	4900	5000	5200	5400	5500	5800
3.	5100	5200	5400	5600	5700	6000
4.	5400	5500	5700	5900	6000	6300
5.	5600	5700	5900	6100	6200	6500
6.	5800	5900	6100	6350	6400	6800
7.	6000	6100	6300	6650	6700	7100
8.	6200	6300	6500	6950	7000	7400
9.	6400	6500	6700	7250	7300	7700
10.	6600	6800	6900	7550	7600	8000
11.	6800	7100	7200	7850	7900	8300
12.	7000	7400	7500	8150	8200	8600
13.	7200	7700	7800	8450	8500	8900
14.	7400	8000	8100	8750	8800	9200
15.		8300	8400	9050	9100	9500
16.					9400	

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1—The sheet steel back welded to the seat framing makes the back a permanent part of your seat. The steel back folds under the seat cushion to prevent feet of riders from getting between the cushion to cause excessive wear.

2—The wall mounted seats have a solid foundation which stops some of the vibration that goes through all seats when

the bus is in motion. Cleanliness is important for long bus life . . . your RANGER is easier to clean with wall mounted seats.

3—The padded seat back fitted inside the seat framing prevents wear from handling . . . your upholstery lasts longer. Your riders grab the framing instead of the upholstery when getting in and out.



4—Three-quarter inch tubing is inserted into the one-inch steel framing at points of extra stress . . . giving your seats strength with no outside bracing to break or come off.

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plus 30 hours begins at \$5,600 with a maximum of \$9,500.

To establish the new schedules, the three beginning salaries were placed at step one and the three maximum salaries at step 15. Starting with each maximum salary, \$300 steps were laddered toward the minimum. At the same time, \$200 steps were laddered toward the maximum until the two met on each schedule. A \$300 increment was retained at step four to conform with the old schedule. Thus, except for the fact that there is no 16th step in Schedule C, in all cases salaries are upgraded in the new schedule.

A new jump each year

In November of 1960, and in each succeeding year, new medians will be established from a county-wide study of salary scales. At the same time, the median number of steps will be determined. A new schedule will be constructed from these two factors. Under this plan, the schedules will be tied to the medians for the county. If the medians do not change, the existing schedules will remain static. It's possible the new schedules may be increased or reduced depending upon what other schools do throughout the county for teachers' salaries.

The existing Schedule A for teachers with a bachelor's degree has, at present, a beginning salary of \$4,700 and a maximum of \$7,400, with 14 steps. On Schedule B, the beginning salary is \$5,000 with a maximum of \$8,400 reached in 15 steps. On Schedule C, master's plus 30 hours, the beginning step is \$5,300, with a maximum of \$9,400 in 16 steps.

Three restrictive ceilings were placed in the schedule for those teachers who have rendered less than three years of service in the school district. Teachers in their first year of service will receive a maximum raise of \$300; those in the second year of service, a maximum raise of \$400; and those in their third year a maximum of \$500. Raises to teachers will vary from a minimum of \$300 to a maximum of \$950 depending upon years of service within the system. All other features of the existing schedules will be retained, including an incentive increment program (merit), and an additional \$500 for 25 years of services. **End**



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Easy payroll plan for small cafeterias

■ ■ ■ Duplication of effort, seemingly a built-in part of any payroll system, has been completely eliminated for the cafeteria of the East Pikeland Consolidated School, Phoenixville, Pa.

Through the use of just three simple forms, a clear, concise record of payroll operations is kept for the three-employee elementary school cafeteria, which serves 200 meals a day. And no one ever handles a form more than once.

Here's the way the system works:

■ Supervising Principal Charles H. Jost is custodian of the school cafeteria account.

■ The school board maintains a special payroll account on which all wage and salary checks are drawn.

■ The board secretary handles all the clerical work involved in this account and the board treasurer signs all checks.

■ Payroll periods extend from the first to the 15th and from the 16th to the last day of each month.

How the forms are used

There are three separate forms used (*see illustrations, opposite page*), with no one handling any form more than once.

Cafeteria labor record. On this form the head cook records the number of hours put in by each cafeteria worker during a given payroll period. She keeps one copy of this form for her files and forwards the original to the administrative office.

School cafeteria payroll form. The names of all cafeteria employees are contained on this form together with their social security numbers and deduction rates for social security, income tax, and retirement fund. Hourly pay rates are also listed. At the end of a pay period, the school clerk merely enters the number of hours worked by each employee—as stated on the cafeteria labor record form—and multiplies by the pay rates to find gross pay. She then uses the given deduction rates to obtain withholding figures and the like.

Two copies are made of this payroll form. The original is forwarded to the board secretary, together with a check payable to the East Pikeland payroll account. This check is drawn on the East Pikeland cafeteria account to the amount of the total payroll given on the payroll form. Carbons of the form and the check are retained in the supervising principal's office.

Individual payroll sheet. Designed for the employee's convenience, this form totals his earnings by payroll periods from the first of the year.

Advantages of the system

How would you benefit by adopting these forms in your own district? Here are some of the ways:

1. No employee handles any form more than once.

2. Original record—signed by an immediate superior—is retained of the hours worked by employees.

3. All the information required to compute each individual salary is available from one source—the school cafeteria payroll form. In addition, it presents the district cafeteria's period salary cost at a glance.

4. The carbon of the check and the carbon of the school cafeteria payroll form indicate that the amount required to meet expenses was transferred from the cafeteria account to the payroll account.

5. When the board secretary receives the original payroll form, he has all the information he needs to make out individual payroll checks.

6. A complete record of wage transactions is available in one place for auditing purposes—original hours worked, computations of wages and deductions, proof that payment was made to the payroll account, total individual earnings by pay periods.

The success of this system in East Pikeland has been due to two time- and work-saving factors: each form leads, in an orderly and logical way, to the next; and no duplication of computations is necessary.

1

A daily record of the hours put in by each cafeteria employee is kept by head cook for each payroll period.

Date to Inclusive

Brown			Schmidlap			Mayer			Graves			
DATE	AM	PM	HOURS	AM	PM	HOURS	AM	PM	HOURS	AM	PM	HOURS
Total Hours												
Head Cook											Grand Total	

2

Complete information about each employee's earnings, deductions and net pay is recorded on payroll form.

Date 16 February to 29 February inclusive

Name	Brown	Schmidlap	Mayer	Graves (Substitute)	Totals
Soc. Sec. No.	111-AA-1111	222-BB-2222	121-AB-2121	212-BA-1212	
Income Rate	18%	18%	18%	18%	
Soc. Sec. rate	3.00%	3.00%	3.00%	3.00%	
Retirement rate	4.91	4.62	4.72	—	
Hourly rate	1.25	1.15	1.15	1.15	
Hours	47½	46	40½	4½	138½
Total	59.37	52.90	46.57	5.17	164.01
Income Tax	10.68	9.52	8.38	.93	29.51
Soc. Sec.	1.78	1.58	1.39	.15	4.90
Retirement	2.91	2.44	2.19		7.54
Total ded.	15.37	13.54	11.96	1.08	41.95
Net pay	44.00	39.35	34.61	4.09	122.06

Amount of check to board secretary \$164.01

Supervising Principal

Copies to: board secretary files

3

Each worker is given a record of his earnings by payroll periods from the beginning of the year.

Name Brown		S.S. 111-AA-1111			Ret. 4.91%		Cafeteria	
Date	Hours	Total	Income	Social Security	Ret.	Total Ded.	Net Pay	Check No.
Jan. 15	47	58.75	10.57	1.76	2.88	15.21	43.54	297
Jan. 31	50	62.50	11.25	1.56	3.19	16.00	46.50	304
Feb. 15	52½	65.31	11.75	1.63	3.33	16.71	48.60	316
Feb. 29	47½	59.37	10.68	1.78	2.91	15.37	44.00	321



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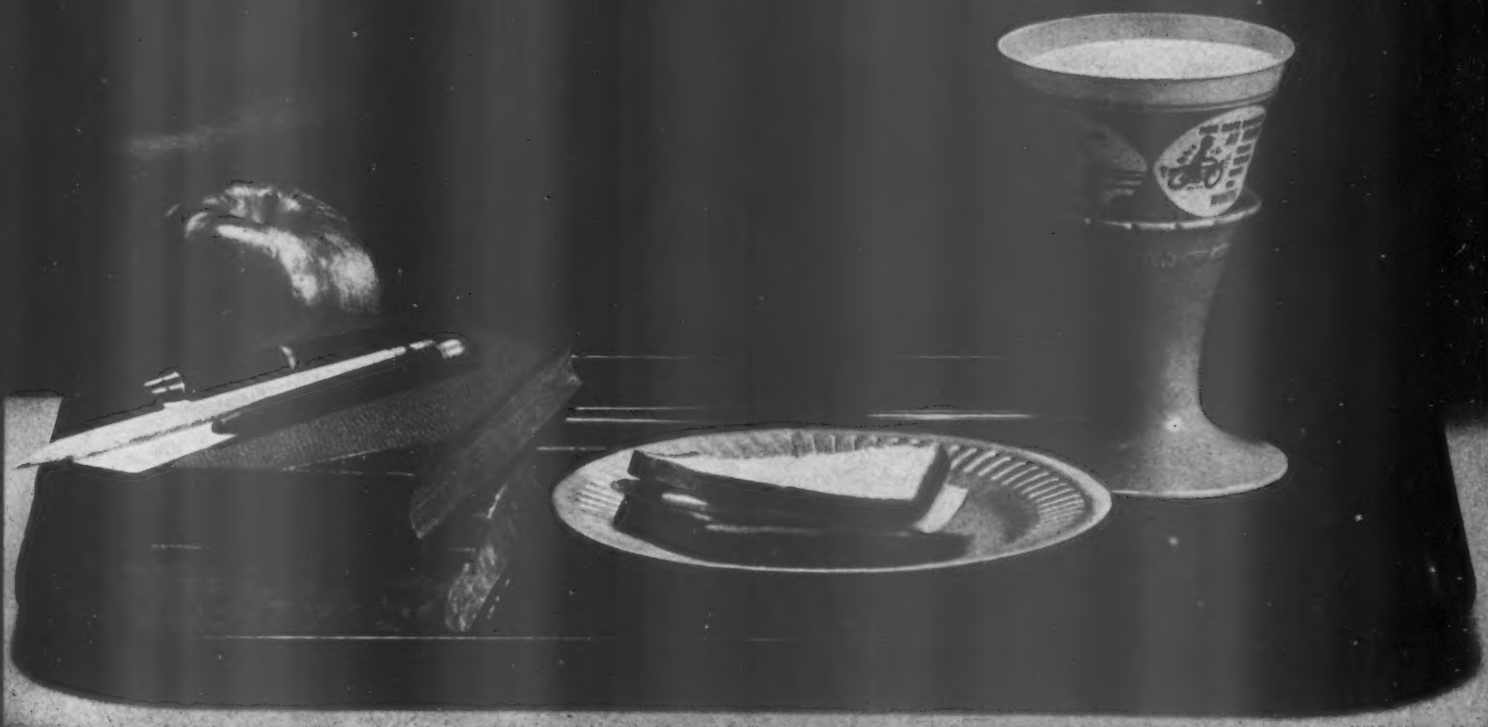
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FOOD CLINIC

Richard Flambert answers your feeding questions

QUESTION: Our school district has been asked to join a county-wide food buying plan. Under it, food for all of the districts in our county would be bought jointly and distributed to our individual schools. We are afraid that such a plan may cost us autonomy in deciding what menus we want to prepare and may also mean lowered standards in the type of food we receive. On the other hand, we recognize the cost savings involved. Can you give us any suggestions as to how we can guarantee quality and choice while taking advantage of the lower costs?

■ Throughout the country food service operations, whether in schools, institutions or commercial restaurants, are devising ways and means of cutting food and payroll costs. It is next to impossible to pass on to the child or other customer the steady increase in food and labor costs. This is especially the case in school districts where federal and state surplus commodity and cash subsidies are declining and where the margin of profit in the sale of milk is microscopic.

Various schemes have been tried to alleviate this situation. One of the most successful has been the pooling of purchasing power. Individual districts, in order to take advantage of discounts through large purchasing, form a cooperative group to purchase in larger quantities than any one could.

The Los Angeles City Schools, with 452 cafeterias, have central purchasing. All foodstuffs, with the exception of milk and bread, are purchased for receipt in the central warehouse. From there it is distributed to the individual schools. This includes canned goods, dry groceries, meats and produce. There is a fleet of trucks, some of which are refrigerated, making deliveries two and three times a week. In spite of this overhead cost the school district is able to effect tremendous savings because experts take care

of the purchasing, warehousing and transportation.

Industry, too, is using this system. In Akron, Ohio, a wholesaler has organized a cooperative buying club and does the buying of all food other than meat, milk and bread for dozens of restaurants. The Sheraton Hotel Corp. purchases \$7 million of food each year for delivery throughout the country. In Chicago 200 restaurants purchase 3,500 items as a group.

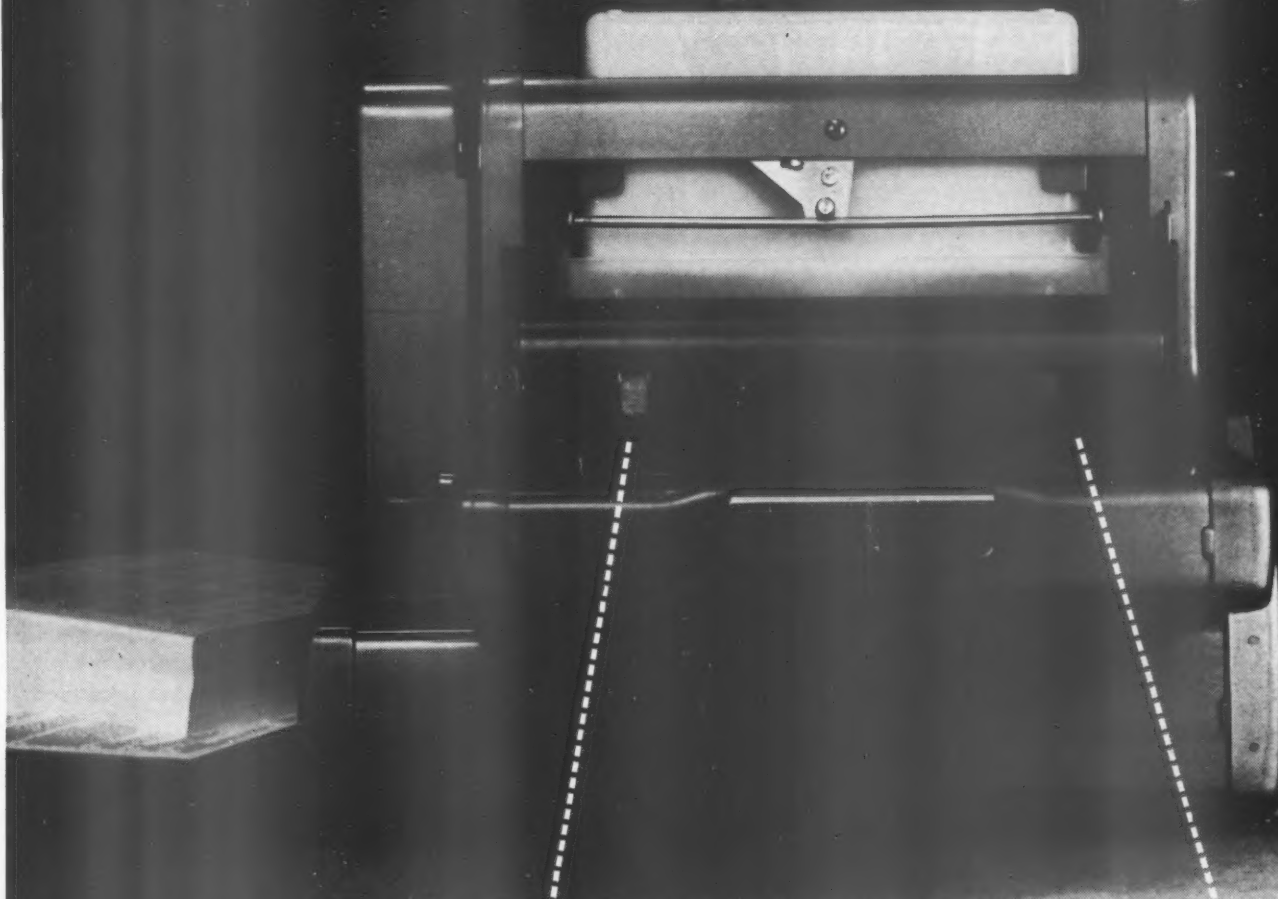
In order for your county-wide food buying plan to succeed, it should start with a group of rigid specifications set up for the purchase of canned goods, frozen vegetables, perhaps sugar and flour and a few other staples. I suggest that until the buying group is functioning efficiently, it not get into the field of fresh meats and produce. The important thing to stress is the necessity of crop shipments to the individual schools so that a central warehouse will not be needed until the volume of business warrants this extra cost. (Many distributors will not make frequent deliveries to small districts or small schools.)

As far as local autonomy is concerned, I am assuming that each district will be represented on the directorship of the plan. Cooperative buying need not interfere with, or influence, the planning of menus for each district. There naturally



About the author. Richard Flambert is a partner in the firm of Flambert and Flambert, San Francisco, St. Louis, Omaha and Chicago, food service consultants and engineers specializing in schools and institutions. He is president of the International Society of Food Service Consultants.

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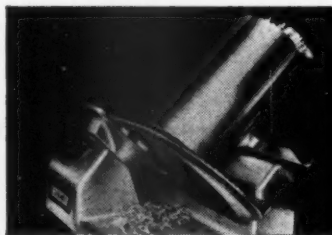
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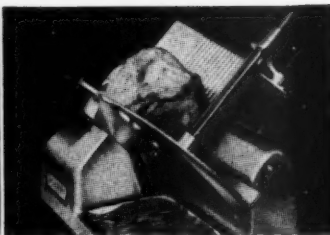


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will be some time needed for accounting and purchasing, but no more so than if these things were done by the individual school districts.

It is quite important that cutting tests be given by the various food service supervisors so that control of quality can be maintained. The amount purchased must be planned intelligently so that individual storerooms will not reflect waste at the end of the semester. It is also important that purchasing not over-tax the available storeroom space, and that buying of "futures" be discouraged.

To summarize, the cooperative buying plan is usually feasible. Where sufficient planning and cooperation among districts occurs there is very little likelihood of failure. My recommendation is to go ahead and try it.

QUESTION: Three major food distributors serving a large metropolitan school district have protested the manner in which foodstuffs are handled by the district and the pressures placed on them in their bidding. Do you know of this incident and, if so, what is your opinion?

■ The three main points in question are 1) the necessity of bidding in the fall for a whole year's business instead of bidding quarterly, monthly, or weekly; 2) the necessity for agreeing to service all schools with any quantity of merchandise they need, when some school could be supplied more economically by retail purchasing; and 3) the necessity of a delivery schedule of two or three times weekly instead of once a week. Wholesalers have objected to the same practices in several school districts.

There is much to be said for the arguments presented, but there is another side to the story.

We have always discouraged future buying, as we feel that money and space are tied up in the purchase of foodstuffs that might or might not be used over a given period of time. The savings that are effected in a 12-month contract are often dissipated by price declines during the course of the year.

There is also the necessity of building a menu around merchandise purchased rather than purchasing food

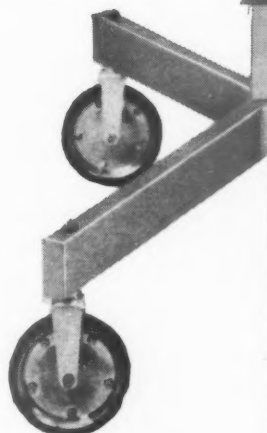
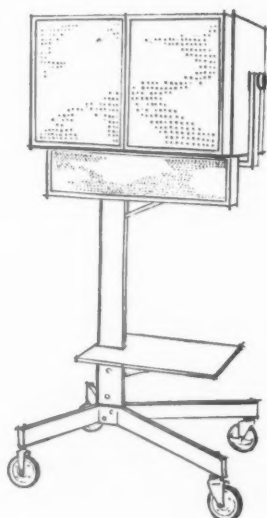
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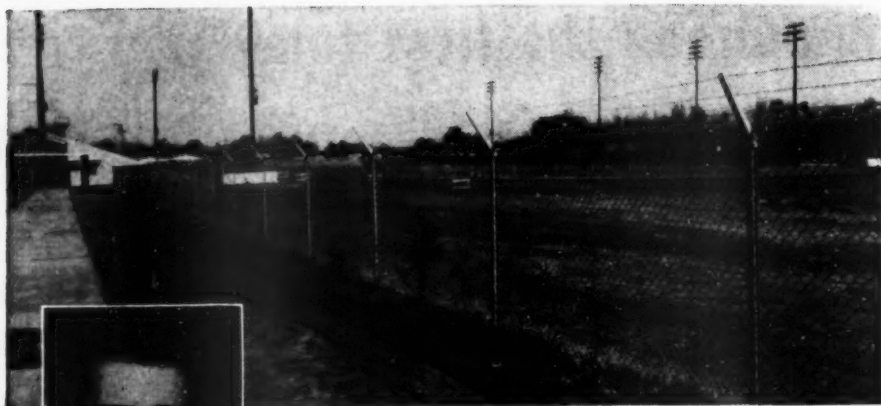
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to fit a menu. There is the possibility of the popularity of a particular item's decreasing. Consider future buying in 1959 on cranberries, for instance. Where possible, we do not think that there should be bids for foodstuffs for more than three months.

The second objection is controversial. It is true that in some special sale items, such as coffee, sugar, etc., it might be more economical for the individual school to purchase retail rather than to participate in quantity buying. However, in this case the district control over purchasing is weakened. Some years ago, when we made a two-year analysis of the entire food service program for the Los Angeles schools, this matter came up time and again. In a large district it is not practical for an individual school cafeteria manager to buy foodstuffs. It takes time for purchasing, time for bookkeeping, time for reporting, and results in ineffective supervision and control. It also permits the wholesalers to accept orders for high-profit items while compelling the schools to buy the low-profit items. We are definitely in favor of bidders accepting the responsibility of complete coverage. The solution in the Los Angeles schools was to set up a central purchasing program whereby all foodstuffs other than fresh milk and bread were purchased for delivery to one warehouse. In this warehouse were dry stores, a fresh fruit and vegetable department, a butcher department, and a food manufacturing and freezing plant. The district is now able to purchase, process and deliver foodstuffs to individual schools at lower cost than wholesalers could with drop shipments.

In small districts this may not be feasible, and the argument presented by the wholesalers might be in order.

The third objection—that of too frequent deliveries—is valid. However, most schools are not equipped with large enough storerooms or refrigerators to handle weekly deliveries. Where there is sufficient freezer space, dry storage space, etc., weekly deliveries would obviously cut the cost of doing business. Frequent deliveries cost money. It is up to each district to determine which is most expensive in the long run.

If there are any specific questions regarding this problem, we should be glad to answer them. **End**

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School decisions

continued from page 69

ships between the inputs to the educational process and the outputs of school systems. With a few exceptions, these input-output relationships in education are simply not known at present.

Estimating incremental output

We think it would be possible to learn quite a bit about these relationships. What we have in mind is

an analysis of pupils' test scores as a function of differences in school characteristics (or inputs). Allowance must be made, of course, for the effects of the non-school factors that influence performance. To reveal much, this sort of statistical analysis would have to be on a fairly large scale.* (A start on a study of this nature is being made by the University of Pittsburgh and the American Institute for Research in connection with their Project Talent.)

Such a study would try to re-

late a rather long list of school characteristics and control variables to the test scores of students.

The control variables or "covariates" would be the non-school factors—such as intelligence and home environment—that influence pupil performance.

When the calculations were made, the first results would indicate the significant differences in outputs due to variations in inputs. One could go even further and derive estimates of the size of these significant differences, using this material.

Statistical analysis

Let us see what such a statistical analysis, if successful, might show about the incremental output from changes in a hypothetical school system.

(The numbers that follow are, of course, hypothetical too.) The analysis would show the average effect of designated policy variations, given various school characteristics as they initially existed and given certain non-school factors (home environment and pupils' intelligence).

Officials in a particular school system could first determine which combination of non-school circumstances and existing school characteristics best fitted their situation. Then they could find in the exhibits the estimated effects of making policy changes in such a school system.

Extracting data

The accompanying table (see page 69) illustrates how the data extracted in this fashion might be arranged. It presents the predicted effects of two changes in System X. One is a 5% salary increase, and the other an 8% decrease, in average class size.

The salary increase would presumably give the system a wider range of applicants from which to choose, especially of applicants trained to teach science and mathematics in the secondary schools. The result would be an improvement in the quality of instruction

* More details on the statistical analysis mentioned here, and on the qualifications that would have to be attached to the interpretation and use of the results, are presented in *SYSTEMS ANALYSIS AND EDUCATION*, The Rand Corp., RM 2473 FF, Oct. 1959.

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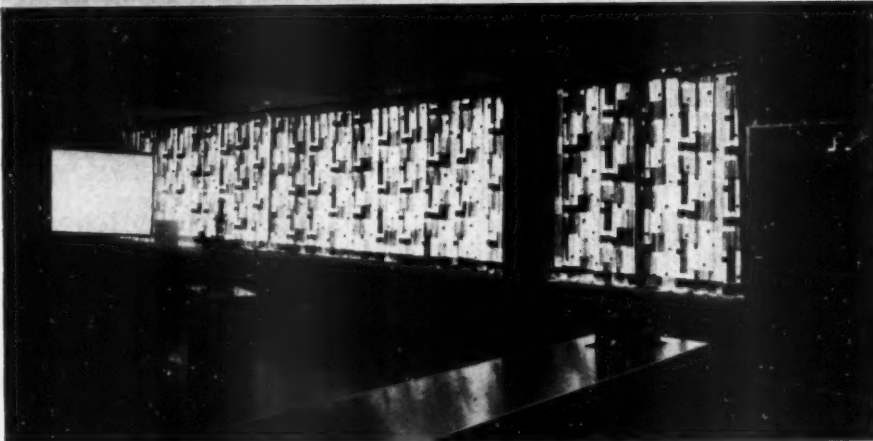


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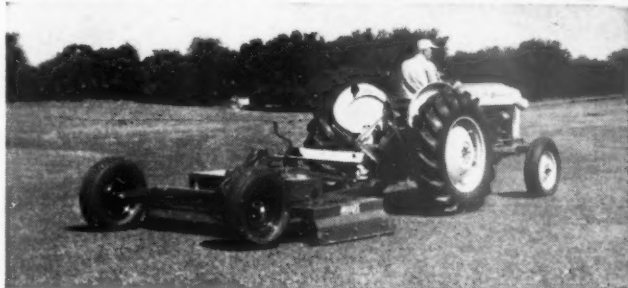
State _____

Attach additional names to separate sheet

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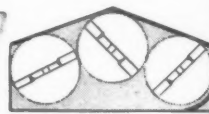
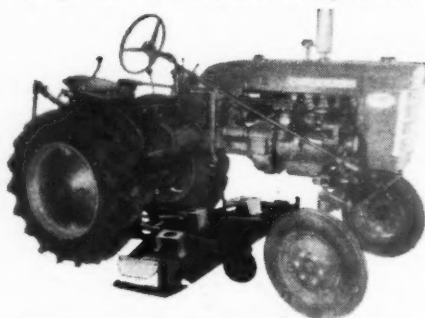
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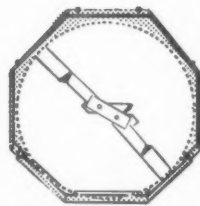
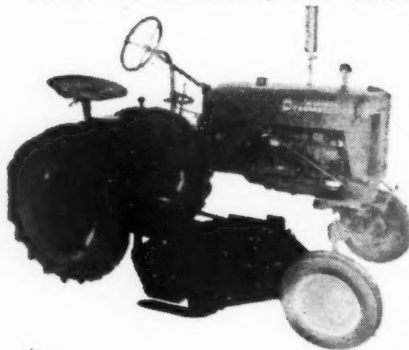
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SCHOOL MANAGEMENT

over what the system could otherwise provide.

In the second change to be considered, it is assumed that the smaller classes—within the range under consideration—would increase pupils' achievement modestly in certain subjects. (Past studies suggest that this impact is slight, which explains why the changes in test scores due to the lower pupil-teacher ratio, are modest in the table.)

Estimating incremental costs

The incremental costs of introducing innovations or modifying school policies would be essential elements in quantitative comparisons of alternative systems. In this illustration the same two changes in System X are designed so that each would raise system costs by \$150,000.*

These are comparatively uncomplicated examples of the estimation of incremental costs associated with policy changes. The calculation of extra annual cost becomes more complex for policy changes, such as the introduction of television, because this would affect still more variables simultaneously. With care, however, reasonable estimates can be made of the incremental costs of almost any adjustment in the school system.

New look at alternatives

This information on cost and output is useful in comparing alternative policies. Of course, the aim of such comparisons would not be to discover ways of cutting the total budget or even of staying within the limitations of existing budgets. School budgets will almost certainly continue to rise. These comparisons would aim at helping school officials get the most out of such future, higher outlays.

To compare the two changes, they must be constructed (or adjusted) so that they cost the same. Then the system yielding the larger output for the same total cost can be determined.** In drawing up this illustration, we have already designed the changes so that they entail the same incremental cost, \$150,000. What about the effect on output? For our purposes, we can take the estimates of these effects directly from the table. According to these hypothetical estimates,

raising teachers' salaries would (in the long run) improve test scores more than the alternative policy costing the same amount.

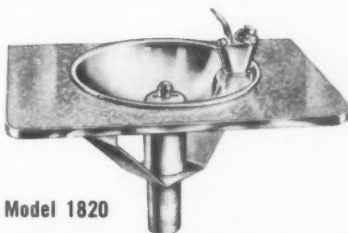
In the interpretation of such comparisons, the qualifications mentioned before should be kept in mind. There are pertinent considerations other than costs and test scores. But this sort of analysis would reduce one set of important and complicated considerations to a meaningful and relatively simple form. Given the tremendous dif-

ficulties connected with decision making in education, progress along this line would be a most welcome step forward. **End**

* In making these calculations, we assumed a certain size for System X, a unified salary scale for its elementary and secondary teachers and no changes in administrative salaries. The 8% decrease in the pupil-teacher ratio meant that the system would employ 30 more teachers and that there would be an 8% decrease in class size on the average, not in each course.

** The systems might also be constructed (or adjusted) to yield the same output to determine which one produced that output at the lower cost.

HAWS ON THE WALL ON THE DECK ↓



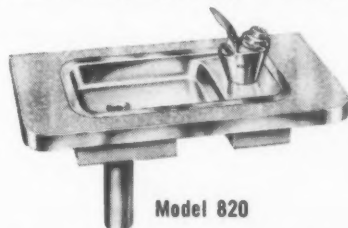
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Model 1385

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1958-59				1959-60			
Average		Quality quarter	Top tenth	Average		Quality quarter	Top tenth
Nat'l		\$191	\$230	Nat'l		\$202	\$237
			\$262				\$287
Region				Region			
1	\$209	\$239	\$257	1	\$214	\$249	\$284
2	223	268	327	2	235	283	335
3	185	227	256	3	198	238	265
4	170	198	231	4	182	215	243
5	148	182	220	5	155	191	236
6	128	148	173	6	138	156	170
7	167	204	227	7	177	207	224
8	190	213	268	8	210	241	290
9	216	236	259	9	228	248	278
DISTRICT SIZE				DISTRICT SIZE			
1 (over 25,000)	\$200	\$226	\$251	1 (over 25,000)	\$209	\$240	\$265
2 (12,001-25,000)	196	227	266	2 (12,001-25,000)	214	242	281
3 (6,001-12,000)	211	239	259	3 (6,001-12,000)	218	249	279
4 (3,001-6,000)	200	237	278	4 (3,001-6,000)	204	249	293
5 (1,201-3,000)	186	230	256	5 (1,201-3,000)	199	232	288
6 (601-1,200)	165	201	236	6 (601-1,200)	175	214	249
7 (300-600)	165	197	239	7 (300-600)	176	200	251

middle-sized districts, those with between 6,000 and 12,000 students, spend the highest amount per student for instructional salaries.

Although District Size 3 has been spending the most per pupil on instructional salaries, over a two-year period (*see tabulations above*), the larger districts have begun to catch up. The smaller districts have also tended to catch up with the leaders. There is a growing pressure to equalize *expenditures per pupil* for instructional salaries. This indicates that increases in state aid tend to be going more and more for teachers' salaries and specific, rather than general, educational purposes. Also the smaller districts are being forced by competition to make extra efforts in this direction. Yet they are still falling behind the larger districts.

It's also interesting to note that among the Top Tenth and even Quality Quarter schools, the smaller districts begin to show up quite well. A teacher interested in working in a small school can, if he looks around, find one offering a salary schedule that is higher than

in many larger districts. But he is also liable to find that he has a fairly heavy teaching load.

LET'S COMPARE PUPIL-TEACHER RATIO

How about teacher load? Is it out of balance compared to your expenditures for teachers salaries, teaching supplies and other educational expenditures? As the arrow shows (*see page 123*) the average ratio throughout the nation is 24.6 pupils for each instructional staff member. To get into the Quality Quarter a district must lower its ratio to 21.9 and entry to the Top Tenth is limited to those districts that have reduced the number of pupils per instructor to 20.1.

Regional variations are surprisingly small. Only Region 2 has a substantially better ratio among the Average and Quality Quarter districts and Regions 2 and 8 show up best among the Top Tenth. Region 6, in pupil-teacher ratio, is very close to the rest of the nation.

WHAT IS THE RATIO BETWEEN PUPILS AND PROFESSIONAL INSTRUCTORS?

1958-59

Average	Quality quarter	Top tenth
Nat'l 24.2	22.0	20.3

Region	Pupils per instructor		
1	22.2	21.1	20.1
2	22.2	19.8	17.8
3	24.5	22.1	20.3
4	23.7	21.6	20.2
5	24.8	23.1	21.6
6	26.6	23.6	21.8
7	25.8	22.8	18.9
8	24.1	21.9	19.7
9	24.9	22.8	20.9

DISTRICT SIZE

1 (over 25,000)	24.5	23.0	21.9
2 (12,001-25,000)	24.8	22.5	20.9
3 (6,001-12,000)	23.6	21.8	20.0
4 (3,001-6,000)	23.9	21.6	19.5
5 (1,201-3,000)	24.7	22.4	20.3
6 (601-1,200)	24.2	22.3	20.1
7 (300-600)	24.8	22.8	19.6

1959-60

Average	Quality quarter	Top tenth
Nat'l 24.6	21.9	20.1

Region	Pupils per instructor		
1	22.5	21.5	20.1
2	22.0	19.6	18.4
3	24.5	22.5	20.6
4	23.6	22.0	20.5
5	24.3	22.7	21.6
6	25.8	23.9	21.5
7	25.1	23.6	21.6
8	24.1	21.7	19.6
9	25.3	22.9	21.7

DISTRICT SIZE

1 (over 25,000)	24.7	22.8	21.5
2 (12,001-25,000)	24.6	22.2	20.8
3 (6,001-12,000)	24.1	22.4	21.0
4 (3,001-6,000)	24.0	21.8	20.0
5 (1,201-3,000)	24.7	22.1	20.3
6 (601-1,200)	24.7	21.9	19.8
7 (300-600)	24.8	21.9	18.9

Again, in district size, variations are quite small, though here the smaller districts tend to show up somewhat better, especially among the Top Tenth. It must be recognized, however, that when a small district (say 400 pupils) adds a single teacher, the ratio is dramatically altered. It must also be remembered that the same schools do not always appear in the Top Tenth. A small district in the Top Tenth, for its size in pay per pupil, may be in the bottom tenth in pupil-teacher ratio. This results in an unbalanced expenditure pattern with serious consequences for quality education.

In almost every region and district size, there was an improvement in pupil-teacher ratio from 1958-59 to 1959-60, but in no case was the change so great as to indicate any significant shift in emphasis.

LET'S LOOK AT ADMINISTRATION

The American Association of School Administrators—to which most superintendents belong—took steps recently to lift the profes-

sional standards of its membership. To join that organization today, a man must have completed at least two years of graduate study in administration at a recognized university.

Considering this professional status of our school superintendents, it is surprising how little they are paid. Almost half the districts of the United States are paying their top administrators an annual salary of less than \$7,500 per year. Despite the fact that this figure includes assistant superintendents and business managers, as well as superintendents, the pay scale is shockingly low.

It is even more shocking when (see arrow, page 124) we realize that 10% of the nation's school districts considers it worthwhile to pay their administrators more than \$13,000 annually, and the Quality Quarter is willing to spend more than \$11,877 for good administrators. Under these circumstances, the chances of an "average" district holding a top-flight man are slim indeed.

On a regional basis, there is surprisingly

HOW WELL ARE WE PAYING OUR ADMINISTRATORS?

1958-59				1959-60			
Average		Quality quarter	Top tenth	Average		Quality quarter	Top tenth
Nat'l		\$7304	\$11167 \$12679	Nat'l		\$7642	\$11877 \$13369
Region				Region			
1	\$8,778	\$11,245	\$13,613	1	\$9,051	\$10,907	\$12,922
2	8,910	11,334	13,231	2	9,351	11,433	14,149
3	7,698	9,635	12,258	3	8,046	10,788	12,863
4	6,025	9,010	10,073	4	6,259	9,504	11,355
5	7,888	9,266	11,360	5	8,206	9,945	11,638
6	7,811	9,406	11,577	6	7,917	9,978	10,736
7	6,427	9,122	10,245	7	6,735	9,474	11,097
8	8,090	9,344	10,109	8	8,954	10,048	11,035
9	10,508	12,616	14,501	9	11,276	13,991	16,240
DISTRICT SIZE				DISTRICT SIZE			
1 (over 25,000)	\$10,101	\$12,422	\$14,811	1 (over 25,000)	\$10,380	\$12,976	\$14,989
2 (12,001-25,000)	9,872	12,158	14,158	2 (12,001-25,000)	10,671	12,776	15,134
3 (6,001-12,000)	9,370	11,547	13,181	3 (6,001-12,000)	10,096	12,135	14,200
4 (3,001-6,000)	9,389	10,615	12,135	4 (3,001-6,000)	9,418	10,976	12,352
5 (1,201-3,000)	7,968	9,757	11,690	5 (1,201-3,000)	8,755	10,451	12,097
6 (601-1,200)	6,895	8,348	9,653	6 (601-1,200)	7,392	8,809	10,236
7 (300-600)	6,724	7,602	8,944	7 (300-600)	7,026	8,039	9,329

little difference between the average salaries paid for administrators. Only Region 9, where the average pay leaps to \$11,276, deviates substantially from the national average. And among the Quality Quarter districts, again only Region 9 stands out, exceeding the minimum for those districts by slightly more than \$2,000.

On a district size basis, we find that the small and medium-sized districts pay an average salary well below the large ones. This is borne out in the Quality Quarter and the Top Tenth, with fairly minor variations.

However, the actual discrepancy between salaries in districts of varying sizes is not really shown by these charts. In many of the smaller and medium-sized districts, the very few top administrators—particularly in Quality Quarter and Top Tenth schools—are well paid. The fewer administrators keep the district's salary average up.

In the larger districts, with a great number of professionals on the administrative staff, the higher paid personnel are often offset in terms of average salary, by a number of assistant as-

sistants who are pegged in much lower salary brackets. This is a factor that must be taken into account in computing average administrative salaries.

How about the *trend* in administrative salaries? As shown in the tabulations (*see above*), the national average rose in the last year from \$7,304 per administrator to \$7,642. Salary minimums for the Quality Quarter and Top Tenth also rose. These went up at a faster rate than the average salaries, indicating, perhaps, that the better-paying districts are making a major effort to hold their people, and to attract good administrators from other districts, by offering the highest possible salaries. If so, this trend should soon force the national average well above its present level.

HOW WELL STAFFED IS OUR ADMINISTRATION?

As might be guessed from the differences in average salaries, the number of pupils per administrator varies greatly.

WHAT IS THE RATIO BETWEEN PUPILS AND ADMINISTRATORS?

1958-59				1959-60					
Average		Quality quarter	Top tenth	Average		Quality quarter	Top tenth		
Nat'l		1235	562	357	Nat'l		1282	556	358
Region	Pupils per administrator			Region	Pupils per administrator				
1	1,639	1,010	543	1	1,587	1,000	541		
2	769	478	347	2	794	452	345		
3	752	413	280	3	769	408	302		
4	893	500	336	4	885	513	333		
5	3,226	1,613	893	5	3,030	1,538	763		
6	2,326	1,471	730	6	2,272	1,370	606		
7	775	495	389	7	806	478	360		
8	1,205	667	465	8	1,266	633	431		
9	1,695	855	346	9	1,961	885	382		
DISTRICT SIZE				DISTRICT SIZE					
1 (over 25,000)	4,762	2,703	1,695	1 (over 25,000)	4,762	2,778	1,754		
2 (12,001-25,000)	3,333	2,381	901	2 (12,001-25,000)	3,448	2,500	1,351		
3 (6,001-12,000)	2,632	1,538	565	3 (6,001-12,000)	2,778	1,587	613		
4 (3,001-6,000)	1,587	1,010	413	4 (3,001-6,000)	1,493	1,075	426		
5 (1,201-3,000)	1,190	746	366	5 (1,201-3,000)	1,190	746	362		
6 (601-1,200)	645	417	300	6 (601-1,200)	676	402	300		
7 (300-600)	510	402	251	7 (300-600)	505	410	215		

We find, for example (*see arrows above*), that the national average is 1,282 pupils per administrator. Because of their size, districts with fewer than 1,200 students must obviously exceed this average. As a matter of fact, there is a steady progression from Size 7 districts to Size 1 districts in the number of pupils assigned to a single administrator. This is true, with minor variations, for the Average districts, as well as for those in the Quality Quarter and the Top Tenth.

By region, we find a very interesting variation. Among the Top Tenth schools there is considerable evenness in administrative load no matter in what part of the country a district might be located. (Regions 5 and 6 do vary slightly from the others, but not significantly so.)

In the Quality Quarter and the average groups, however, the range is much greater and an administrator on the average in a Region 5 district has almost four times as many students under his jurisdiction as an administrator on the average in a Region 3 district.

The trend in administrative staffing over a two-year period appears to be toward *increasing* the number of students assigned to a single administrator. The national average rose from 1,235 students per administrator in 1958-59 to about 1,282 this year. This is not a significant change on a national basis. Changes within regions and by district size were also very minor.

Administrative salaries, as measured by "expenditures per pupil" and as a "percentage of net current expenditures," remained relatively the same over the two-year period, nationally and by regions and by district size (*see tabulations, pages 126-127*). The highest per pupil expenditures for administration, as might be guessed, occurred among the smaller districts. These same districts found it necessary to devote a far larger proportion of their current operating expenses to administrative salaries than did their larger neighbors. This is merely a reflection of the fact that these districts had fewer students among whom to distribute their costs. And with lower budgets on the average,

HOW MUCH ARE WE SPENDING PER PUPIL ON ADMINISTRATIVE SALARIES?

1958-59				1959-60			
Average		Quality quarter	Top tenth	Average		Quality quarter	Top tenth
Nat'l		\$6.34	\$10.79	Nat'l		\$6.41	\$11.16
			\$17.20				\$18.18
Region				Region			
1	\$5.17	\$ 7.50	\$10.70	1	\$5.00	\$ 8.25	\$10.70
2	8.15	15.17	23.17	2	8.92	16.85	22.70
3	8.23	14.98	22.04	3	8.14	16.42	22.77
4	6.11	10.80	17.45	4	7.12	10.94	17.98
5	2.17	3.43	6.47	5	2.14	4.04	8.30
6	2.90	4.08	8.63	6	2.88	4.35	8.90
7	7.70	11.67	15.00	7	7.63	12.13	16.70
8	5.79	9.97	16.20	8	5.98	10.25	15.20
9	5.20	9.65	14.00	9	5.75	9.19	13.33
DISTRICT SIZE				DISTRICT SIZE			
1 (over 25,000)	\$ 1.92	\$ 2.49	\$ 3.48	1 (over 25,000)	\$ 2.06	\$ 2.89	\$ 3.88
2 (12,001-25,000)	2.24	3.69	5.77	2 (12,001-25,000)	2.24	3.63	5.10
3 (6,001-12,000)	3.17	5.16	6.48	3 (6,001-12,000)	3.30	5.31	7.70
4 (3,001-6,000)	4.79	8.21	16.90	4 (3,001-6,000)	5.27	8.44	17.46
5 (1,201-3,000)	6.50	9.42	17.57	5 (1,201-3,000)	6.50	10.14	16.79
6 (601-1,200)	8.40	12.57	19.12	6 (601-1,200)	8.75	13.02	19.62
7 (300-600)	11.48	14.22	22.44	7 (300-600)	11.52	14.64	23.25

there can be no question but that the cost of administration is a severe drain on the finances of the smallest school districts.

HELP FOR THE PROFESSIONALS

So far we have looked at administrative and instructional staffing patterns in the nation as a whole and in the various regions and district sizes. But a balanced expenditure pattern must also take into account the teaching tools with which professionals must work and the help teachers get with their non-professional chores. The first may be measured in terms of expenditures for teaching materials and the second in terms of the quality and quantity of clerical help.

Teaching materials

The average school district in the United States allocates 3.7% of its total current expenditures for teaching materials each year. Ten percent of the schools spend more than 6% on teaching materials while at the other end of the scale, almost a quarter of the dis-

tricts spend less than two cents out of every dollar on teaching materials.

On a per pupil basis, districts in Region 9 spend a far greater amount on teaching materials than schools anywhere else in the nation. An average school in that region spends more than \$12 per student on these supplies, \$3 more than is spent per pupil in any other region.

This can probably be accounted for by the fact that this region has more per capita personal income than most others. The districts tend to spend more per pupil than in other regions. Having the wealth and the desire to spend for education, these districts would naturally rate highest in expenditures for teaching materials.

On a district-size basis, expenditures per pupil (as well as percentage of budget spent on teaching materials) do not vary greatly. This, however, may be deceptive since the total of dollars available to a smaller district is much less than that available to a large one. (A district with 400 students would be hard-pressed to install a language laboratory if its per pupil expenditures were \$11. A district

HOW MUCH OF CURRENT EXPENDITURES GOES FOR ADMINISTRATIVE SALARIES?

cei

1958-59				1959-60			
Average		Quality quarter	Top tenth	Average		Quality quarter	Top tenth
Nat'l		2.30%	4.08%	Nat'l		2.20%	3.99%
			6.53%				6.29%
Region				Region			
1	1.73%	3.01%	4.24%	1	1.72%	3.19%	4.19%
2	2.37	4.51	6.49	2	2.28	4.52	5.77
3	3.01	6.18	7.83	3	3.06	5.61	7.51
4	2.47	4.35	5.96	4	2.63	4.43	6.01
5	1.05	1.75	2.81	5	1.05	1.80	3.45
6	1.66	2.63	6.41	6	1.52	2.58	6.30
7	3.58	6.17	7.72	7	3.38	6.32	8.24
8	2.21	3.44	4.91	8	1.98	3.45	5.04
9	1.54	2.87	4.46	9	1.62	2.62	4.03
DISTRICT SIZE				DISTRICT SIZE			
1 (over 25,000)	.67%	.84%	1.25%	1 (over 25,000)	.68%	.87%	1.16%
2 (12,001-25,000)	.81	1.15	1.77	2 (12,001-25,000)	.77	1.12	1.43
3 (6,001-12,000)	1.11	1.58	2.38	3 (6,001-12,000)	1.08	1.56	2.43
4 (3,001-6,000)	1.73	2.83	6.21	4 (3,001-6,000)	1.73	2.85	5.94
5 (1,201-3,000)	2.20	3.29	5.54	5 (1,201-3,000)	2.28	3.25	4.93
6 (601-1,200)	3.55	5.71	7.99	6 (601-1,200)	3.70	5.80	7.83
7 (300-600)	5.29	6.37	8.52	7 (300-600)	4.87	6.21	8.13

with 4,000 students, even with a lower per pupil expenditure, could afford to install a language laboratory.)

In general then, while districts of varying sizes are spending about the same amount per pupil on teaching materials, the larger districts are able to make the best equipment available to their teachers. They are able to allocate their funds more efficiently.

Clerks and secretaries

How about clerical help? Here, perhaps more than anywhere else, the smaller districts fall down. Almost no district with fewer than 600 students has a full-time clerk or secretary assigned to work for the instructional staff. Almost half the smallest districts report less than a full-time clerk or secretary for the administration.

What does this mean? It means that in districts with fewer than 1,200 students, teachers and administrators must do most of their own clerical work. This cannot help but detract from their professional duties.

On the basis of salaries, only the Top

Tenth, among the two smallest district size groupings, are paying average salaries of \$3,000 a year or more. In all other district sizes, more than half the districts top this level and the Top Tenth among the three largest district sizes are paying average salaries of better than \$5,000 per year. The smaller districts also spend the smallest percentage of their current expenditures on secretarial and clerical help.

End

COMING NEXT

Figures concerning the relationship of debt service and capital outlay to net current expenditures have now become available to us. These figures will be presented in next month's installment of CEI. Information on the costs of plant maintenance and operation will be presented in July.

Reports on health, attendance, transportation and other auxiliary services are being prepared for the August issue of *School Management*.



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What teachers say

continued from page 66



"The issue today—and this Dr. Trump recognizes—is that we have teachers doing non-instructional duties. If we can relieve them of these clerical duties, they will have more time to teach."

BATCHELDER

pay men teachers more than it pays women?

BATCHELDER: My system pays a \$200 sex differential. But how much is this per hour? And has it really brought us more men teachers? I don't think so—we do not have more male teachers than the average district.

STOLBERG: Nobody wants all teachers to earn the same salary. I'm sure Mr. Batchelder agrees that we want the competent, effective teacher to get more money than the less competent. Experience and training improve competence. We believe they should be rewarded.

Q. What about this idea of paying science teachers, because they are in short supply, more money than teachers of other subjects?

BATCHELDER: That is nonsense. Imagine trying to do that over a period of years. This year, because you can't hire science teachers, you up the ante and pay science teachers more. Next year, English teachers are in short supply, so you up the ante for English. Now you've got everyone operating on a different salary schedule. If there is anything that would destroy a school system faster, I can't imagine it. Teaching is a cooperative enterprise, a teamwork affair. Anything that creates divisiveness, especially when we are talking about the pocketbook, will influence the quality of service to children.

Q. How do you feel about Trump's idea of using non-teachers for non-instructional duties? He proposes instruction assistants to perform specific functions below the professional level of teachers, but above the role of clerks. Such things as reading and evaluating English themes.

BATCHELDER: This misses the big issue completely. The issue today—and this Dr. Trump recognizes—is that we have teachers doing non-instructional duties. If we can relieve them of these clerical duties, they will have more time to teach. But they would still be controlling the learning process.

Q. Isn't it possible to fragment your purely professional teaching duties? Can't you separate out the ones that do not truly require a person trained as a teacher and assign those to an assistant? Let's take the example of marking English papers for punctuation and grammar.

BATCHELDER: Marking English papers is a chore. But it is probably one of the best ways that a teacher has of assisting the individual child to improve his English composition. There are two ways of doing it. Either we give the teacher plenty of kids and plenty of periods—a heavy load—and have someone else correct the papers, or we give the teacher fewer children and the time necessary to do the correction herself. In Newton, we assign the English

teacher four classes instead of five. This helps relieve the load and allows more time to correct papers.

Q. Would this apply to correcting mathematics papers, too?

BATCHELDER: Let's put it this way: if we give the teacher a clerk to mimeograph tests, and if we use machines that will correct standardized tests instead of having teachers do this laboriously by the hour, that would make sense. But let's make sure we don't take teachers out of creative aspects of teaching.

STOLBERG: It's almost as important for a teacher to see a math paper as it is to see an English paper. The teacher can often analyze what the child needs in the way of help by correcting his work. Mr. Batchelder was correct when he pointed out that there are plenty of other clerical duties a teacher can be freed of by clerks without getting into the teaching process itself.

BATCHELDER: The teacher learns a lot about Johnny—and about his own teaching—by analyzing what questions Johnny gets wrong. It tells the teacher what to cover in review and what to do to help the individual child. As to this question of having English papers corrected by an assistant, some teachers have said it takes them as much time to work with their corrector as it does to correct the papers in the first place.

Q. In addition to instruction assistants and clerks, Dr. Trump recom-



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WHAT TEACHERS THINK OF TELEVISION

It is generally believed that teachers are resistant to educational TV and see it as a threat to their job security. An interesting survey, conducted in the Cincinnati Public Schools, seems to indicate otherwise. Two members of the city school staff, James N. Jacobs and Joan Bollenbacher, surveyed 28 classroom teachers who had participated in a full year experiment in using TV for sixth grade science, seventh grade mathematics, and ninth grade biology. The teachers were asked to give their opinions on 19 different statements.

A summary of the opinions, screened from the answers, and carried in the *Bulletin* of the National Association of Secondary-School Principals (March, 1960), made the following points:

1. Most teachers feel that instructional television is an asset to education.
2. About half of the teachers feel that a similar degree of effectiveness is possible in the conventional classroom without TV instruction.
3. Almost all teachers felt they were applying good ideas developed by the program.
4. The teachers were evenly divided as to whether they felt students were learning as much by television as they should.
5. The teachers did not find that pupils viewing television became excessively restless.
6. The teachers felt that subjects taught by television result in a teaching load equal to or greater than the normal load incurred in the conventional classroom.
7. The teachers are not afraid that TV instruction will lead to regimentation and curriculum rigidity and not a single teacher felt that instructional television would threaten his job.

Opinionnaire Statements	% Agreeing N=26
1. Generally, instructional television is an asset to education.	92.3 *
2. From the students' point of view, I think the course content is much more comprehensive than anything I have been able to produce.	65.3
3. As compared to the uninterrupted lesson of the TV teacher, a classroom teacher interacting with students simply cannot cover as much material.	53.8
4. In addition, since the TV teacher is doing such a good job,	100.0 *
5. I am getting many good ideas regarding teaching methods which I am applying to my other classes.	100.0 *
6. My major concern is the difficulty of maintaining continuity between the televised lessons and my own classroom instruction.	34.6
7. Although I agree the television teacher is very good, I think the problem is that we simply teach differently and cannot, therefore, articulate our instruction properly.	23.0 *
8. I do not think the students are learning as much as they should,	42.3
9. and the articulation problem may be the reason.	11.5 *
10. Perhaps the effectiveness of television instruction depends upon which course is being televised.	88.4 *
11. I have noticed, however, that my students tend to be restless when viewing the televised lessons,	26.9 *
12. although I have a hunch that a shorter telecast would remedy that situation.	15.3 *
13. I have found that my teaching load has been somewhat lessened due to the televised lessons.	3.8 *
14. Frankly, I would rather spend more time in preparation and teach my course the way I think it should be taught.	53.8
15. Televised teaching will lead to regimentation and curriculum rigidity,	26.9 *
16. and may eventually threaten our very jobs.	0.0 *
17. Whatever disadvantages televised instruction has, I think the teaching process, enriched by the high quality television lessons which we receive, is enhanced.	88.4 *
18. If I have the opportunity to engage my class in TV instruction again next year, I will certainly be most willing.	65.3
19. Well, each to his own opinion, but personally, I don't receive the personal satisfaction in TV classes that I do in my regular classes.	42.3

* This proportion represents a significant deviation from the quality of agree-disagree responses.

mends "general aides to control and to supervise students on school grounds, in cafeterias, and in other activities of this nature. What do you think of that idea?

BATCHELDER: I'll buy that. It's perfectly asinine to have a teacher with a master's degree, and 20 years' experience, count tickets at a basketball game.

STOLBERG: That's right. In my school we have five teachers supervise the lunch room—people with master's degrees. Five master's degree people giving one hour a day to this work amounts to a full teacher in our school. It's wasteful and ridiculous.

BATCHELDER: I'll give you another example. We have 3,200 students in Newton High School. Until recently, on "report card day," at the end of the marking period, it took both teachers and pupils one day and part of another day to get the cards marked. This happens four times a year. So it took one week of instructional time in our high school year to do this clerical duty alone. Today we rent three IBM machines. Among the many other things they do, they produce the report cards. So our children have one more week of instructional time without lengthening the school year one day. This is what Trump is talking about in using time and staff more wisely. If you multiply that by some of the other clerical duties, you have truly significant savings.

Q. What about the use of teaching machines? Would you be opposed to them?

STOLBERG: Teachers aren't resistant to these ideas. We've had films and movies, for example, for years—those of us who are lucky enough to be provided with them.

BATCHELDER: I think these machines are fabulous tools for the classroom teacher. I have yet to see a teacher who would not be fascinated by a tool that would help him do his job better (see box on this page for teachers' opinions about the value of television). My concern here would be the same as with television—the tool must be in the hands of the person who is responsible for the control of the teaching-learning process.

End

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continued from page 20

in the teaching of elementary anthropology, astronomy, biology, chemistry, conservation, electricity, geology, meteorology and physics.

For a free copy of this catalog, circle number 874 on the Reader Service Card.

Thrift-wall construction. A new low-cost wall construction system, using just three basic structural ceramic units and standard, pre-engineered,

metal "surround" frames, is described in a bulletin issued by Stark Ceramics, Inc. Since the more expensive tile shapes and fittings are eliminated, material and labor costs are greatly reduced. The system is adaptable to structural glazed tile with standard face dimensions. Any wall detailed in 8-inch increments can be constructed by using standard structural tile stretchers, corners and stretcher finished two sides. Pre-engineered door and window frames eliminate the need for angle iron lintels and provide the finished sill

and jamb. The three-color booklet describes the thrift-wall construction system and gives specifications for its use.

For a free copy of this bulletin, circle number 835 on the Reader Service Card.

Emergency electric power. An authoritative bulletin on the selection and installation of standby electric plants and controls has just been issued by D. W. Onan and Sons, Inc. The eight-page folder clearly outlines the steps to be considered in selecting any emergency electric generating plant. Practical suggestions are offered in the planning and designing of the installation, the degree of protection desired, important "musts" to consider and common errors to avoid. The folder also lists and evaluates specific requirements: manual, automatic or instantaneous starting; type of fuel; air- or water-cooling; special heaters; ratio shielding; plant exercisers and instrument panels.

For a free copy of this catalog, circle number 870 on the Reader Service Card.

Toilet compartment data. A fully illustrated, 32-page catalog in color presents details of Sanymetal Products Co.'s line of toilet compartments, shower stalls and cubicles. Contents include architectural specifications, information on new types of urinal screens, richer and softer decorative effects, and details of new engineering developments including a unique integral hinge bracket.

For a free copy of this catalog, circle number 869 on the Reader Service Card.

Standardized test listing. More than 400 standardized tests, available to schools for use in programs of testing, guidance and counseling in connection with the National Defense Education Act of 1958, are contained in a pamphlet available from the American Textbook Publishers Institute. Tests listed pertain to areas of achievement, character and personality, English, fine arts, foreign languages, intelligence, mathematics, aptitudes, reading, sciences, perception, social studies and vocations. Those listed are published by the Bobbs-Merrill Co., California Test Bureau, Educational Testing Service, Houghton Mifflin Co., Psychological Corporation, Science Research Associates, Steck Co. and World Book Co.

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(Circle number 781 for more information)

News from the business firms serving your schools

Extra classroom storage

A remarkable new do-it-yourself method for providing storage drawers in classrooms, home-ec rooms and laboratories has been marketed by Robert Schless Co. With it, your maintenance department (or even a teacher) can install low-cost permanent drawers, formed from Monsanto's light and durable styrene plastic, in less than an hour.

Here's how it works: You choose from several drawer widths and



depths to meet your storage needs. These drawers are inserted into any cabinet or rough opening and are carried by pre-formed plastic guides. No tools are needed. Individual drawers may be removed and used as tote-trays, yet drawer stops prevent their accidental removal. The drawers may have a self-front or you can purchase pre-cut birch or walnut drawer fronts which are glued to the drawer body.

A catalog, complete with prices and various drawer sizes (as well as do-it-yourself instructions), is available.

For more information, circle number 828 on the Reader Service Card.

■ ■ ■

Films on famed scientists

Aristotle, Galileo and Newton are the subjects of three new Coronet films designed to teach the human side of science. Each was filmed on location: "Aristotle and the Scientific Method" in Greece, showing instruments used at the very dawn of science; "Galileo" in Florence and Pisa, Italy, presenting detailed reproductions of his telescopes; and "Isaac Newton," in part, at Woolsthorpe Manor, England, where he developed

many of his theories and mathematical formulas. The three films, designed primarily for high school use, are each one-and-one-quarter reels (13½ minutes) in length and are available in color or black-and-white.

For more information, circle number 903 on the Reader Service Card.

■ ■ ■

Safety training program

Authentic traffic control signs are part of a safety training program for the primary grades which has been devised by National Mfg. & Equipment Co. Visual aids for the program include the half-size control signs and a four-side "stop and go" signal with a remote push-button control. Optional equipment: a canvas floor cover with streets and railroad crossing stenciled on it, on which students can correctly place the safety signs. The students can act out traffic situations on the canvas "streets." An instruction manual is included with the equipment furnished.

For more information, circle number 868 on the Reader Service Card.

■ ■ ■

Flexible classroom wall

A new flexible wall, to which interchangeable chalkboards, cabinets, and shelves may be quickly attached and detached, has recently been announced by the Brunswick-Balke-Collender Co. Called Moduwall, it permits a teacher to easily add to or change a whole variety of components that are used in different instructional situations. The sole stationary parts are wall-mounted standards into which the various units are hooked. One early and obvious advantage that it offers is unlimited free-



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(Circle number 719 for more information)

dom of choice, on the part of an administrator, in making classroom assignments. Primary classroom may be changed to a high school classroom with relative ease.

For more information, circle number 887 on the Reader Service Card.

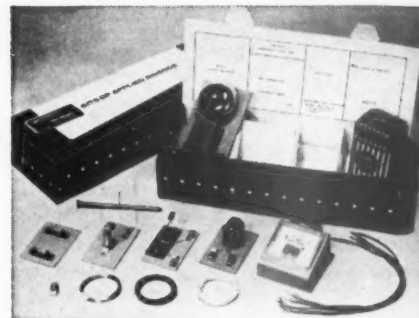


Electricity teaching kit

A new series of working models to help fifth- to ninth-grade teachers demonstrates and makes understandable the scientific principles of electricity has been introduced by the Sci-

ence Education Division of the Product Design Co.

The Basic Electricity Kit includes a small electric motor, buzzer, switch, ammeter, lamp and socket, magnet wire and bar, compass, fuse, resistance and hooked-up wires. The new kit has a six-volt battery and electrical connections are easily made. Illustrated instructions for the teacher outline a series of 14 simple experiments which cover the nature of electricity, structure of matter including electrons and atoms, the meaning of volts, amperes and current as well as resistance and magnetism. By assembling and hooking up parts in the kit, classroom stu-



dents create an electromagnet, build a simple electric motor, produce sound, heat and light. They can build and blow a fuse, hook up various components in parallel and series and measure the electrical current used. The kit is approved by many states for 50% federal aid assistance.

For more information, circle 895 on the Reader Service Card.



All-purpose intercom system

A new, all-purpose communication system has been introduced by the Standard Electric Time Co. Developed especially for schools, the system allows for both private, two-way telephone communications and for general announcements, such as emergency instructions, special events, etc.—



the latter forms of communication being disseminated by means of wall speakers in individual classrooms. The system utilizes an existing bell control board and can be operated by the office secretary. Thus, installation savings are substantial, since wiring is in the same conduit as the clock and program system.

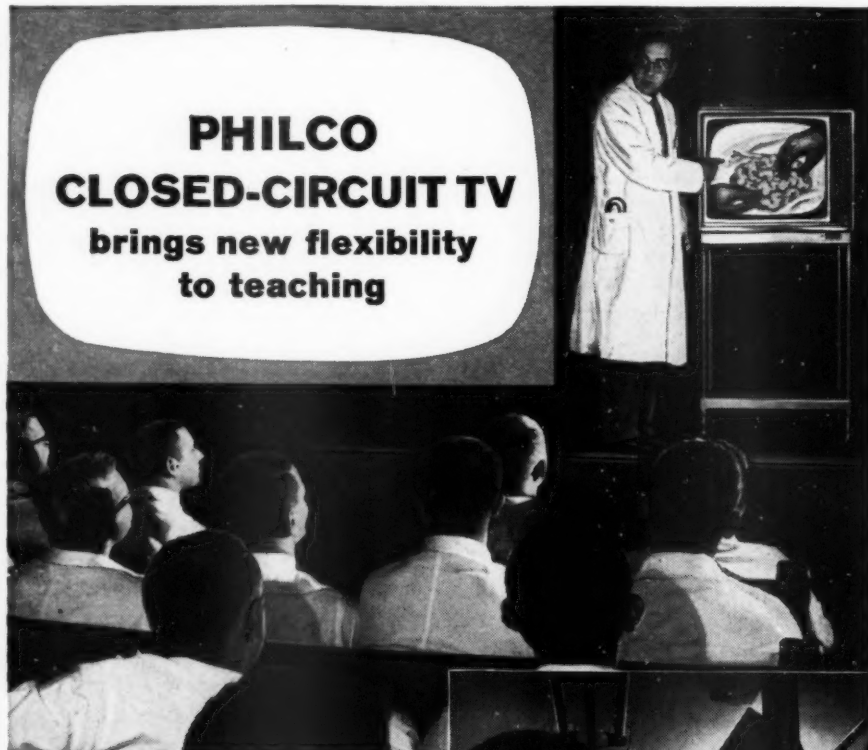
For more information, please circle 892 on the Reader Service Card.



Five-channel intercom system

A new school communication system that provides five simultaneous channels of communication has been introduced by Executone, Inc. It provides two sound channels, electronic

PHILCO CLOSED-CIRCUIT TV brings new flexibility to teaching



Philco, pioneer in fully-transistorized closed-circuit television, offers completely integrated instructional TV systems for schools and hospitals. Philco systems provide the ultimate in flexibility, incorporating any number of cameras, monitors, receivers and amplifiers, interconnected through a central console or a "patch panel"... with provisions for two-way conversations. Philco equipment is reliable, easy to operate and low in cost. Philco will help you design a system to meet your requirements. Write for information and your Philco Closed-Circuit TV Planning Guide.

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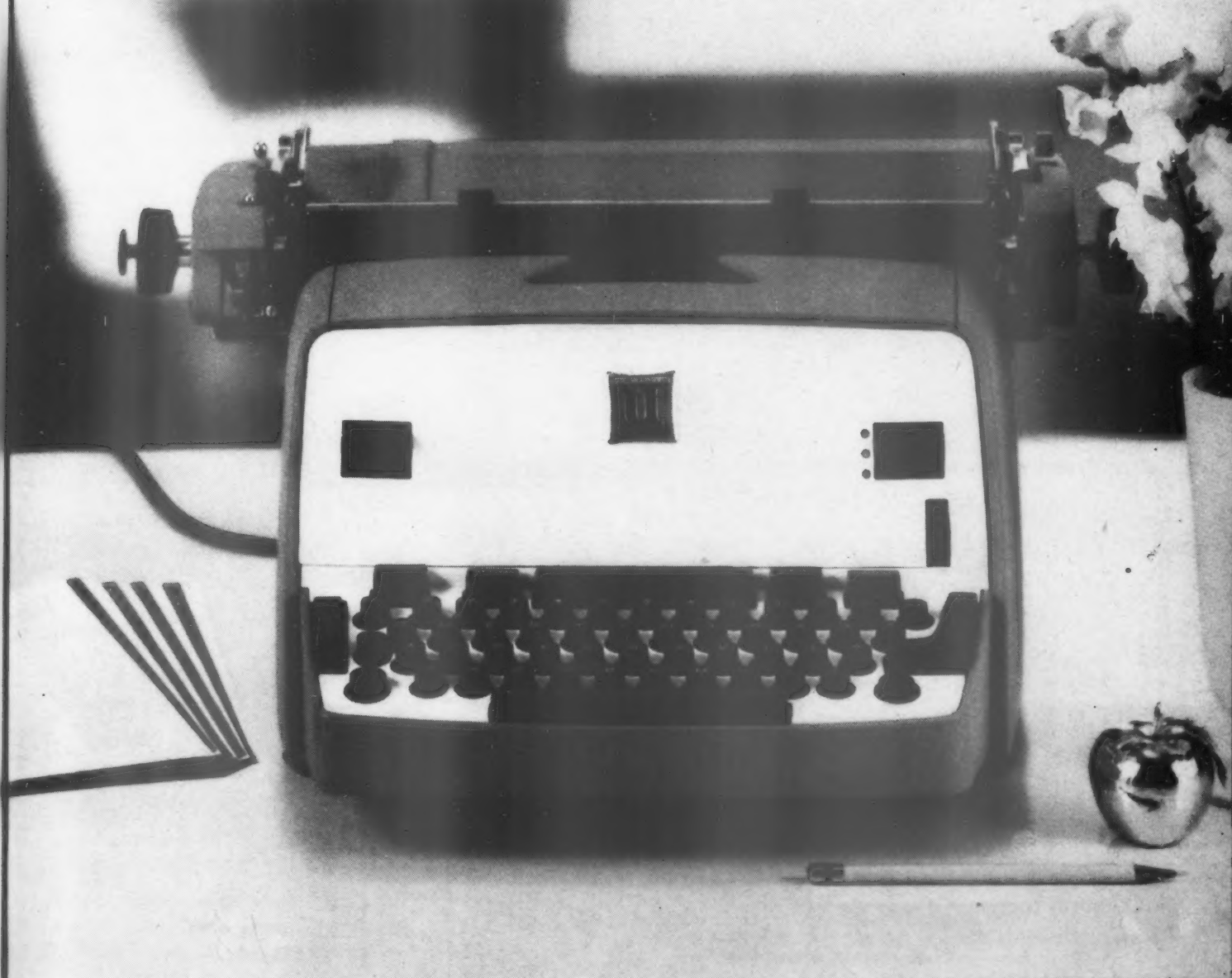
(Circle number 752 for more information)



The World's First Integrated Hospital Closed-Circuit TV System was recently installed by Philco at St. Christopher's Hospital for Children, Philadelphia. It links the main operating room, lecture halls, auditorium, pediatric treatment rooms, psychologic observation rooms and the radiology department. Folder describing this system will be sent upon request.



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voice intercom, room-to-room telephone facilities, and time and alarm signals. Classrooms may be tied in with any one of six programs of time signals. A classroom may easily be changed from one program to another by changing the position of a single cord on the front-accessible pegboard control. While the control center—a desk-type console—may be located in the general office or elsewhere in the school, the principal and other administrators may converse with any classroom from their desks. The control center also provides an AM-FM radio tuner, four-speed record changer and oscillators which generate time and alarm signals. An emergency paging control enables

the administrator to automatically over-ride all other programs and signals. For making calls between classrooms and for confidential conversations, room-to-room telephone communication is possible.

For more information, circle 890 on the Reader Service Card.

■ ■ ■

Sturdy tubular folding chair

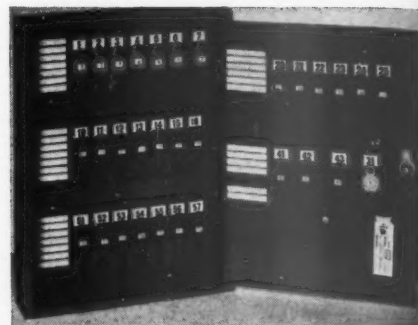
In addition to withstanding laboratory tests of 1,300 pounds, the model 1601 tubular folding chair distributed by Adjusteze Furniture Div. features non-tilt safety design, a formed metal back and contoured wood seat. Compact when folded, it measures only two-and-one-half inches in thickness and stands 39 inches high.

For more information, circle number 881 on the Reader Service Card.

■ ■ ■

School key control system

The ever-present problem of controlling keys in the school is simplified through a new system of visual control through color. Manufactured by the Saxton Barrett Co., the system is adaptable to installation with requirements



ranging from five to 99,900 keys. Key cabinets for the system are provided to simplify storage and key location.

For more information, circle 891 on the Reader Service Card.

■ ■ ■

Compact kitchen dishwasher

A redesigned series of compact, counter-type dishwashers has been announced by the G. S. Blakeslee Co. The new machines are ideal for school cafeterias serving up to 50 persons per meal and where kitchen work area is at a premium. The units are equipped with automatic timing, dwell and rinse cycles, and use just four square feet of counter space.

For more information, please circle 878 on the Reader Service Card.

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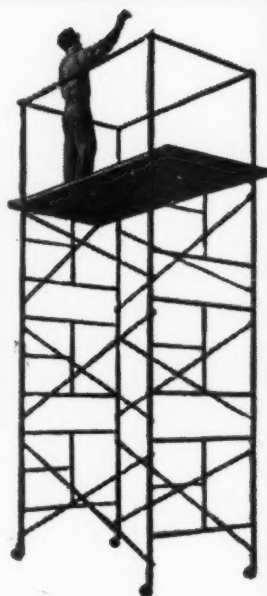
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ally every school function. Multiple copies of report cards for office and counselor use, permanent records, student rosters, class rolls, honor rolls, grade analyses, failure lists, and rapid class loading are provided the administrator. Result? His clerical load is reduced. He gets additional information and reports to help him analyze and improve his total operation. All this without investment in equipment or additional personnel.

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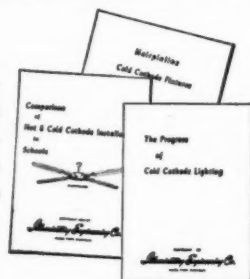
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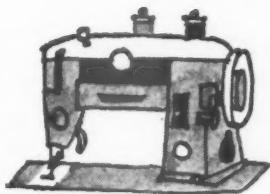
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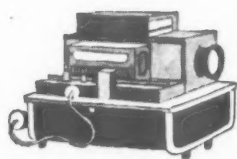
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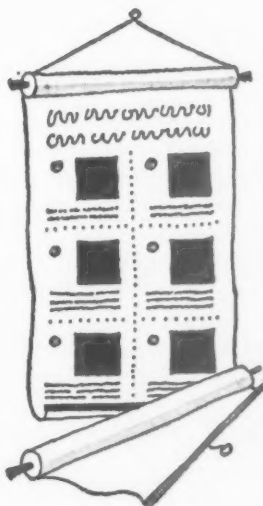
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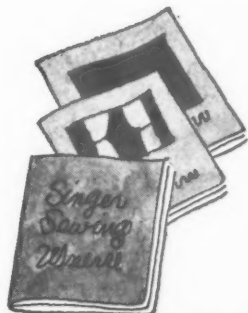
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SCHOOL OFFICE is published annually by the publishers of *School Management* magazine. Last year's guide (titled *School Office Equipment*) won plaudits from schoolmen throughout the country.

The 1960-61 edition of **SCHOOL OFFICE** is now being prepared. Publication date is October of this year. The guide will be distributed—free of charge—to every public school district in the U.S. with an enrollment of 300 or more students.

AN INVITATION

Right now, while editors are compiling **SCHOOL OFFICE**, you are invited to contribute material for publication. Concisely written case histories of adaptable ideas from school business officials will be rewarded with a \$10 "thank you" check if the material is used.

What specific steps have been taken in your school office recently to save work? How have new methods or equipment been used to improve staff utilization, especially to free teachers from clerical chores? Your ideas may help other schools—and reflect credit on your district.

Send your specific ideas now to the Editor, **SCHOOL OFFICE**, 22 W. Putnam Ave., Greenwich, Conn.

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By the publishers of *School Management* magazine

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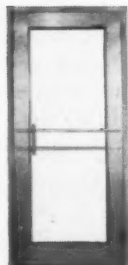
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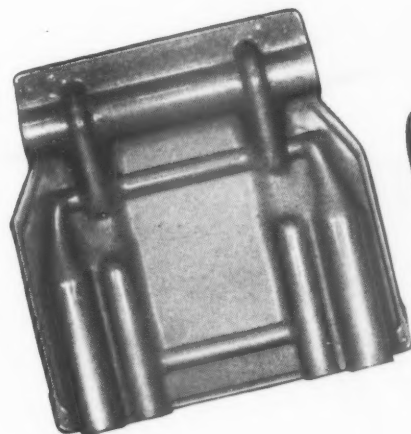
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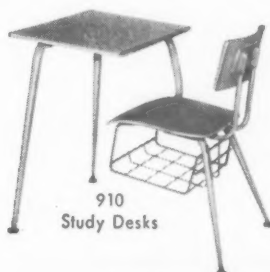
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